The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

VOL. 29. NO. 17. TULSA, OKLAHOMA, SEPTEMBER 11, 1930

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Much Depends on Decision in Oklahoma

Highest daily average estimated total production in 1929, week ended Aug. 24, 2,975,435 bbls. Lowest in 1929, Dec. 27, 2,595,320 bbls.

Any Material Increase in Production at This Time Probably Would Result in Reduction in Crude Price Schedule

Highest daily average estimated light oil production in 1929, week ended Sept. 14, 2,534,524 bbls. Lowest in 1929, Apr. 13, 2,142,036 bbls.

By Andrew M. Rowley

Interest of the petroleum industry this week centers largely on the decision to be made by the Supreme Court of the State of Oklahoma in the case brought before it by an operator in the Oklahoma City Field involving the constitutionality of the State law giving authority to the State Corporation Commission to order curtailment of crude oil production. Leading attorneys of the oil industry aided the Attorney General of Oklahoma in arguments before the court upholding the validity of the law. They claimed chaos would reign within the industry were conservation agreements and the general curtailment program to be abrogated.

Should maximum production be permitted at Oklahoma City as a result of any decision the State Supreme Court may make, it is believed the crude oil price structure will be so weakened that a substantial reduction may be expected in the very near future. While pipe line companies operating from the Oklahoma City Field have stated they cannot accept any more crude for delivery than they are now handling, there is little doubt production in the field will be increased materially should the State Corporation Commission be enjoined from enforcing its rulings regarding conservation and curtailment of output.

The decision of the Oklahoma court probably will be felt everywhere where conservation agreements have been made effective. It is particularly unfortunate the question of constitutionality of the law should arise at this time when the industry was making such splendid progress in holding crude oil production more nearly to market requirements and had succeeded in reducing crude oil and gasoline stocks to some extent.

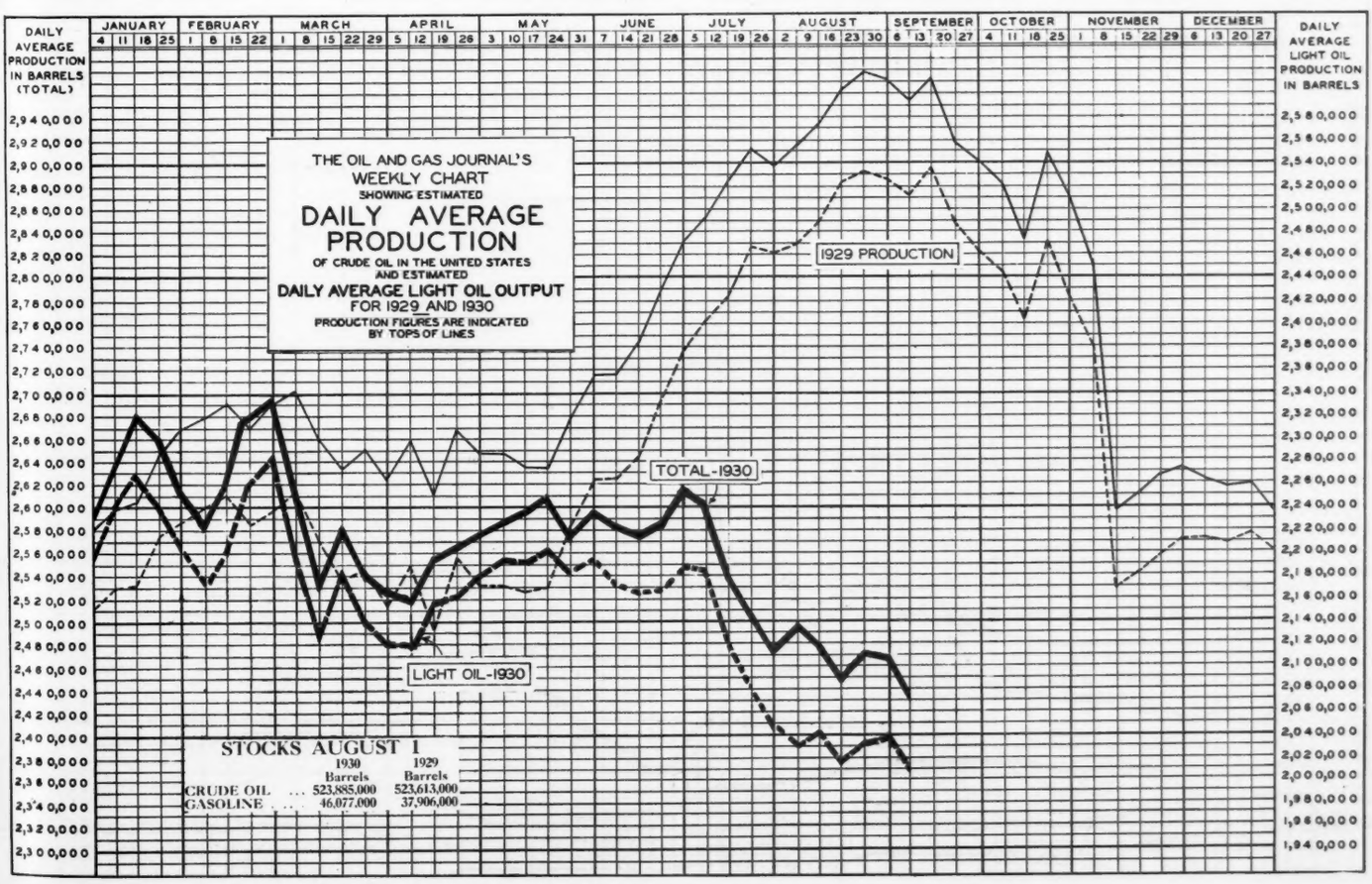
Gasoline stocks are probably the most important factor at this time in the crude oil price structure situation. Any reduction in crude oil prices undoubtedly would result in an increase in runs at refineries with another piling up of surplus stocks of gasoline.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended September 6 and a comparison with the previous week follows:

	August 30		September 6	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	105,410	.....	121,240	.....
St. Louis-Pearson	24,315	.....	24,170	.....
Seminole	137,945	.....	138,285	.....
Northern miscellaneous	235,435	.....	228,910	.....
Southern fields	61,440	.....	60,950	.....
Total Oklahoma	564,545	.....	573,555	.....
West Texas—				
Hendricks	68,000	.....	69,899	.....
Yates	107,995	.....	107,976	.....
Remainder	101,042	.....	103,644	.....
Total West Texas	277,037	.....	281,519	.....
North Louisiana	35,195	5,245	35,550	5,240
Arkansas	16,765	36,735	17,795	37,260
North Central Texas	122,432	.....	123,686	.....
Texas Panhandle	96,541	.....	101,391	.....
East Central Texas	40,758	.....	39,562	.....
Kansas	113,485	.....	115,310	.....
Total Mid-Continent area	1,266,758	41,980	1,288,368	42,500
Gulf Coast	.....	195,999	.....	199,670
Southwest Texas	.....	94,997	.....	104,165
Eastern	120,000	.....	120,000	.....
Rocky Mountain area	106,478	.....	115,449	.....
California—				
Santa Fe Springs	106,500	.....	108,000	.....
Long Beach	101,500	.....	103,000	.....
Playa Del Rey	18,500	.....	13,500	.....
Elwood	43,006	.....	35,500	.....
Ventura Avenue	47,000	.....	47,500	.....
Seal Beach	19,000	.....	20,500	.....
Remainder of State	187,000	89,000	187,000	88,000
Total California	522,500	89,000	515,000	88,000
Total United States	2,015,736	421,976	2,038,817	434,335
Grand total	2,437,712		2,473,152	

Total Decrease 35,440 Bbls.; Light Oil Decrease 23,081 Bbls.



Refiners Maintain Price Advances

Quotations on Gasolines Firm Despite Efforts Made to Weaken Market. Better Feeling in Regard to Fuels

By C. O. Willson

Both refiners and natural gasoline manufacturers in Oklahoma (Group 3) and other Mid-Continent areas the first of the week were generally holding to the higher price levels established at the start of September.

Contrary to the expectation of some of the buyers, the gasoline selling fraternity has withstood the efforts of those who have attempted to secure price concessions on orders for immediate delivery or shipment over the month. A check on Monday and Tuesday showed that Oklahoma and Kansas refiners were maintaining the price of 6¼ cents established for the U. S. Motor grade in sales to the trade with not more than a quarter-cent concession in resale business. Not so much attention was being paid to the higher gravity grades although a number of refiners are maintaining the usual price differentials for the several grades.

Natural gasolines continued firm with 5½ cents for all grades. Many manufacturers are sold up for the month and some reductions in inventories are reported. Predictions were heard that prices will go higher before the end of the month provided the strength in the refinery gasoline market was maintained.

Although they cannot be called strong, there is a better undertone in the market on kerosene and furnace oils with a fair movement of both products. Price ranges on the heavier fuels are not changed but several refiners reported more inquiries from the industrial buyers and it is thought that this market which has been unsatisfactory for months may improve during the fall months.

Many market observers in the Mid-Continent and Middle West have expressed the opinion that the next ten days will probably determine the refined market trend for the remainder of the year. They are closely watching developments in both the crude oil production and gasoline tank wagon divisions because of their probable direct reflection in the refinery market.

The uncertainty in regard to the posted crude oil and gasoline tank wagon and service station prices mentioned in these columns from time to time in the past continues despite the improvement in the tank car markets. The critical situation in the Oklahoma City Pool which is of direct importance to Oklahoma, is explained elsewhere in this issue.

In the gasoline retail end, the recent substantial reductions in prices at several points in the Middle West, including such large consuming centers as Kansas City, Des Moines and Indianapolis, and New York City in the East, has brought the fear that these reductions will spread to other points. The "competitive situation" was given in explanation for these reductions. Conditions at these points differ little from those in other large cities and towns where gasoline is usually available from 2 to 5 cents under the prevailing prices of the Standard and other large distributing companies.

Some believe that instead of general reductions, the large companies will continue a policy of making local reductions to meet competitive conditions in a particular city or territory. In the past, however, such a plan usually terminated with general reductions.

It is this situation coupled with the uncertainty as to the crude oil price structure which makes the next few days important in refinery circles. In this connection it is contended by some refiners that even if reductions in crude oil and gasoline station quotations materialize, it will have only a temporary effect on the refinery market. Data are presented showing that the refinery market through a gradual decline since late spring has discontinued the unfavorable factors in the oil situation while the crude price structure and retail prices on finished products have remained unchanged. In brief, these observers feel that the refining branch has withstood the brunt of the depressed markets over the past few months and changes in prices in the crude production or marketing phases will probably work to their advantage for the immediate future at least.

Gasoline and Naphtha

Apparently all the weak spots in Mid-Continent gasoline situation were eliminated last week. With some decrease in production and a steady demand, no distress gasoline was offered and buyers found refiners uniformly quoting 6¼ cents for U. S. Motor gasoline. New business at this figure was not heavy as buyers have been slow in accepting higher prices. Some of the buyers are predicting that more material will be available after the fifteenth of the month and the sellers are expecting that purchases will be heavier the last half of the month due to the fact that buyers will be forced into the market.

Some sales of 400 endpoint gasoline at

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REFINED MARKET BAROMETER

Refinery gasoline prices were maintained fairly steady the past week except in California where the market weakened on local shipments within the Los Angeles territory. The Mid-Continent and middle western refiners were maintaining the advances which were made effective the first of September. Natural gasolines continued firm in the Mid-Continent with a heavy movement to refiners. The price trend in Mid-Continent kerosene was upward but otherwise the market was unchanged. No developments of general significance were reported in fuels including gas oil and furnace oils. Lubricating oils are in fair demand with wide ranges on prices from the several refining areas. Wax prices are unchanged. On the whole the domestic demand for refined products is more satisfactory than the export demand, the latter being exceptionally dull in several products.

Mid-Continent—Recent advances in refinery gasolines being maintained. Natural gasolines firm. Fractional advances in kerosene. Improved demand for low cold test grades of fuel oils, gas oils and furnace oils. Other products unchanged.

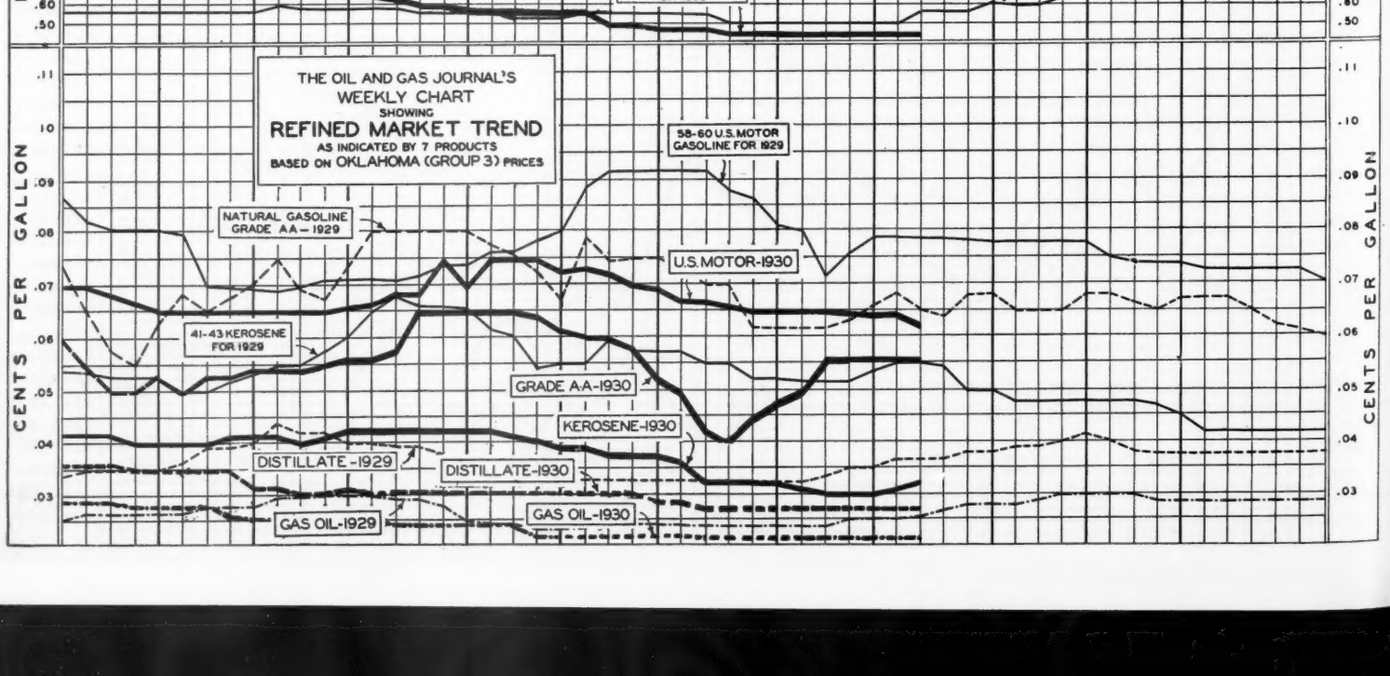
East Coast—Prices on refined products fairly well maintained, although supplies adequate. Gasoline demand holding up better than expected. Better seasonal demand for kerosene. Routine movement of fuel oil and gas oil. Export market dull.

Gulf Coast—Gasoline market more active and prices firmer. Fair movement of pale and red oils. Fuel oil demand dull.

Pennsylvania—Prices generally unchanged.

Chicago—Gasoline market stronger as refiners refuse to give price concessions. Kerosene quiet. More active demand for fuel oils.

California—Gasoline market weak. No change in other products.



Oklahoma Court Considers Curtailment

Decision in Julian Case Withheld After Arguments But Probably Will Be Announced Within Day or So

By James McIntire

OKLAHOMA CITY, Okla., Sept. 9.—The case of C. C. Julian and the C. C. Julian Oil & Royalties Co. against the Oklahoma Corporation Commission in which the petitioner sought to restrain the commission from interfering with him in the production of oil from the wells of his company in the Oklahoma City Field was argued before the State Supreme Court today. The arguments took up several hours, John Head, Oklahoma City attorney, appearing for Julian, and Assistant Attorney General Murphy, assisted by W. P. Z. German, general counsel for the Skelly Oil Co., and Judge C. B. Ames of The Texas Company, representing the corporation commission. The court withheld its decision in the case. It is expected the decision will be handed down tomorrow.

Counsel for Julian advanced the argument that the corporation commission in attempting to limit and prorate the production of oil was going outside the authority granted it by the laws of Oklahoma and that the act of the Legislature setting forth the powers of the commission was in itself indefinte and uncertain as to its terms. He claimed the motive back of the present curtailment regulations was not to prevent waste but to maintain the price of crude oil. The Julian company, he claimed, was in a position to produce, transport and refine its own production and could not be charged with waste in any definition of the term.

Ames Reviews Proration

Judge Ames opened the argument for the corporation commission by reviewing the history of proration, going back to the days of Glenn Pool in Oklahoma in the early years of the century when the first law was passed giving the corporation commission authority to regulate the running of oil by pipe lines. He reviewed the history of Cushing in 1914-15 with its tremendous overproduction which brought about the enactment of the law under which the corporation commission is now exercising its powers. The creation of the Federal Oil Conservation Board by President Coolidge and the President's public letter setting forth the importance of the conservation of the country's natural resources were set before the court. Judge Ames said that Oklahoma had led in the conservation movement that has spread to Texas and to California and emphasized the importance of maintaining it in the interest of the general public good.

Legal Aspects

The strictly legal aspects of the case were handled by Attorneys Murphy and German, who upheld the constitutionality of the act regulating the powers of the corporation commission and upheld the legality and fairness of the proration rules as applied by the commission. Decisions of the supreme court of the United States and of individual states, including Oklahoma, were cited to show that the commission was acting within its rights in limiting production of crude oil of individual producers to accord with their ratable share of the oil from a common pool and claimed the right of the commission to limit production to pipe line demand in order to prevent wasteful production of crude oil in the State.

The claim of Julian's counsel that the curtailment regulations were a price fixing scheme was emphatically denied by Judge German, who countered by saying that the commission had not attempted to exercise the right the law gave it to establish a fixed price for crude oil.

Murphy's Argument

Assistant Attorney General W. L. Murphy cited several decisions from the State supreme court in which it was held that writs of prohibition would not lie in similar cases. The constitution declares that rulings of the corporation commission are prima facie to be considered reasonable.

The decision in the case of the Quinton Relief Oil & Gas Co. against the corporation commission, dealt with the conservation law. The Quinton company was manufacturing carbon black from natural gas. The commission prohibited this, as a waste of gas. The supreme court in this case held:

"Where a statute confers upon the corporation commission the power and duty to prevent the wasteful utilization of natural gas, and that body orders that the utilization of natural gas from the wells of a certain class in the manufacture of carbon black constitutes waste; held, that this court will not, by issuing a writ of prohibition, interfere with the corporation commission in enforcing its order."

Mr. Murphy argued that, substituting "oil" for "gas," and excessive production for manufacture of carbon black, the two cases are on all fours.

Exercise of Police Power

The constitutionality of the conservation act is based on the argument that it is a valid exercise of the police power. From a decision of the Federal supreme court in the case of the Ohio Oil Co. vs. the State of Indiana, Mr. Murphy quoted numerous Federal decisions in which the right of the State to regulate the production of oil is sustained. Cases from Indiana, New York, Wyoming and Kansas were cited.

In the Ohio Oil Co. case the court held: "The power of the State can be manifested for the purpose of protecting all the collective owners (of a pool) by securing a just distribution, to arise from the enjoyment of them, of their privilege to reduce to possession and to reach the like end by preventing waste."

In regard ot this point another Oklahoma case, that of the Pawhuska Oil & Gas Co. vs. Pawhuska, involved the right of the gas company to cut off the supply of gas, under a corporation commission order, from those who refused to install meters, in order to reduce the waste of gas. In this case the State court held:

"The right of the owner of property to do with it as he pleases is subject to the limitation that he must have due

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Refinery Runs Lowest in Two Years

Mid-Continent Operations Curtailed Due to Prolonged Market Weakness. Number of Shut-Down Plants Increased

By W. T. Ziegenhain

During September, Mid-Continent refinery crude runs will be less than during any month since June, 1928. The present average of 498,710 bbls. daily is approximately 54,000 bbls. less than a year ago and represents a decrease of 27,690 bbls. compared to August. There are also fewer operating refineries in this area but the effect of shutting down a number of scattered plants is partly overcome by the increase in the number of small refineries operating and building in the Oklahoma City Field. North Central Texas and Oklahoma refineries showed substantial decreases in their runs with practically no change being shown in the Arkansas, Kansas and north Louisiana runs. West Texas also showed a large reduction, considering the relatively small refining capacity of this area.

Oklahoma

In the September 1 survey three more Oklahoma refineries were shown as not running crude. These include the two plants of the Mid-Kansas Oil & Gas Co. at Boynton and Bristow, Okla., which were recently acquired from the Transcontinental Oil Co. These refineries are only temporarily shut down but the date for resuming operations remains indefinite. The third one to be shut down was the Empire Oil & Refining Co.'s plant at Cushing. Due to marketing conditions it was decided to temporarily discontinue operations here. To partially overbalance the effect of these changes, two new plants were added to the list of Oklahoma City plants and with two more under construction the total will be brought to six within the next 60 days. One of these is the Capitol City Refining Co.'s 2,500-bbl. plant, which will operate at an initial schedule of 200 bbls. a day. The other plant to start operating in September is the Peacock & Peeveta refinery, having a capacity of 3,000 bbls. The schedule of runs and the exact date of starting up this plant remains indefinite. Increased runs in the Electrol Refining Co.'s plant in Oklahoma City also adds to the activities in this area. In addition, construction work is progressing on the D. M. Crump Refining Co.'s 3,000-bbl. plant and this should be ready to operate in about 60 days. The Gulf States Corp. has practically completed construction work on its plant in Oklahoma City but the date of starting up is still indefinite. The Producers & Refiners Corp. has resumed the operation of their West Tulsa plant after a shutdown of approximately 10 days.

RUNS TO STILLS AT MID-CONTINENT REFINERIES

1928	
June 1	487,135
July 1	506,310
August 1	543,625
September 1	563,270
October 1	547,820
November 1	550,000
December 1	520,000
1929	
January 1	508,550
February 1	506,800
March 1	514,950
April 1	530,530
May 1	577,500
June 1	585,030
July 1	565,800
August 1	555,250
September 1	552,300
October 1	544,720
November 1	545,473
December 1	540,630
1930	
January 1	535,460
February 1	519,355
March 1	531,500
April 1	555,250
May 1	574,300
June 1	572,250
July 1	548,475
August 1	526,400
September 1	498,710

North Central Texas

The North Central Texas refinery runs in September will show a decrease of 11,300 bbls. per day. This is due principally to a general curtailment of operations in a number of plants. The Mid-Kansas Oil & Gas Co. shut down its Fort Worth plant temporarily also, accounting for a part of the decreased runs. The Olney Oil & Refining Co. has suspended operations in its plant at Olney, in order to make some major repairs. It will resume operations late in the month. A new refinery was added to the list by the starting up of the Southland Refining Co.'s 1,000-bbl. plant in Olney. The initial schedule has been established at 200 bbls. daily.

West Texas

West Texas is another refining area to show a substantial reduction in runs for September. This decrease will approximate 6,000 bbls. daily. This reduction is accounted for principally by the temporary shutdown of the Great West Refining Co.'s plant at Big Spring and the Richardson Refining Co.'s plant also at Big Spring. The Great West refinery has suspended operations while repairs are made to the equipment made necessary by a fire. The Richardson plant will not resume operations until about the middle of the month at which time it will adopt a regular schedule of approximately 5,000 bbls. daily.

North Louisiana and Arkansas

The refinery runs in the North Louisiana and Arkansas areas will remain practically unchanged during September. A new refinery will be added to the list of operating plants in Arkansas before the close of the month when the Macmillan Petroleum Co. starts up its new 2,000-bbl. specialty plant at Norphlet. Special naphthas and asphalts will be manufactured here. The only change in the status of the North Louisiana re-

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MID-CONTINENT REFINERY OPERATIONS

(Based on Operations September 1, 1930, and August 1, 1930; data in barrels)

District—	No. of plants Sept. 1	Daily crude cap. (bbls.) Sept. 1	Daily crack. cap. (bbls.) Sept. 1	Plants oper. Sept. 1	Runs to stills Sept. 1	Plants oper. Aug. 1	Runs to stills Aug. 1	Daily decrease Sept. 1
Arkansas	9	45,300	16,750	9	26,680	9	26,400	*280
Kansas	15	142,000	77,400	14	87,900	15	88,100	200
North Louisiana	6	59,250	21,000	5	27,700	5	27,500	*200
Oklahoma	49	323,800	117,050	42	191,650	42	202,350	10,700
North Central Texas	39	180,900	34,750	35	100,500	36	111,800	11,300
West Texas	32	151,300	44,700	24	64,280	24	70,250	5,970
Total	150	902,550	311,650	129	498,710	131	526,400	27,690

*Increase.

Cementing Problems on Gulf Coast

Results of Co-operative Endeavor to Investigate and Determine Proper Use of Cement in Oil Wells

By W. T. Doherty and M. Manning*

This paper supplements a previous paper by the authors presented before the American Petroleum Institute meeting April 3, 1929, at Dallas, Tex., entitled "Gulf Coast Cementing Problems." Therefore, in order to clarify and make more coherent the data and discussions contained herein, a brief summary will be given of the major issues brought out in both papers with subsequent questions arising therefrom.

It might be well to state here, before entering into the main discussion, that the primary purpose of the first paper was most assuredly fulfilled. That purpose was to initiate an interest in the problem and a desire to find a positive solution. It has been gratifying to note the manner in which most of those concerned have entered into a co-operative endeavor to intelligently investigate and determine the proper use of cement in protecting oil wells from the ingress of water.

Major issues of both papers:

1. Use of calcium chloride as an accelerator to setting time of cement.

2. Should cement be selected on quality basis?

3. Water-cement ratio and operating control.

4. At time first paper was presented the company with which the writers are connected experienced the following percentages of cementing failures, based on appearance of cores:

1,000 feet or above, 60 per cent failures.

1,000 feet to 2,000 feet, 80 per cent failures.

3,000 feet to 6,200 feet, 100 per cent failures.

Below are questions brought out in discussion of above issue:

(a) Can a representative core be taken?

(b) Is the appearance of a core sufficient evidence for determining the success or failure of a cement job?

5. Chemical theories as a possible cause of failure.

(a) Disintegration caused by presence of acids, sulphur or sulphates.

(b) Reversion of lime in cement back to carbonate.

6. Mud contamination.

(a) Effect on strength of cement.

(b) Proper displacement as prevention of mud contamination.

In discussing the issues, data and results of first paper will be combined with that accumulated since that time.

It was decided to discontinue the use of calcium chloride for the following reasons: The inability to obtain a homogeneous mixture with present equipment, and the fact that in using calcium chloride, ultimate strength is sacrificed for early strength, sometimes resulting in early retrogression. Under no circumstances should an accelerator be used with a high early strength cement.

Cements should not only be selected on a quality basis, but each carload purchased should be properly sampled and tested. These tests are essentiol for several reasons: (1) There are manufacturers who through lack of control of the progressive stages of manufacture produce a product with considerable irregularities; (2) there are dealers who provide inadequate means for storing, and oftentimes through ignorance subject cement to detrimental conditions that may mean the loss of original quality.

The American Society for Testing Materials issues specifications limiting the separate valves in all Portland cement, which serves as a guide to all manufacturers. A series of tests, as shown in Table No. 1, will disclose whether the manufacturer is merely concerned with producing a product that just meets requirements or whether an effort is being made to market a product with a degree of quality beyond specified limits. Note that tests in Table No. 1 show a wide variation in the quality of the individual brands.

Aside from regular American Society of Testing Materials tests, it is advisable to determine tensile strength of neat briquettes made up with 42 per cent water by weight of cement. This slurry approximates mixture used in actual operations and is valuable in selecting a cement for this purpose.

Quality of Cement

Generally speaking, especially where time is a vital factor, high early strength cements are best suited for oil well purposes, but recent investigations have discovered several brands of ordinary portland cement that are just as well suited for cementing surface and upper strings of pipe (1,000 to 1,500 feet), allowing only 72 hours for setting. Ordinary portland cement should also be used when high temperatures or waters containing a high content of calcium chloride are encountered. These conditions will cause a high early strength cement to flash set, resulting in disintegration within a comparatively short time.

At the beginning of the present investigation, it was apparent that surface operations could be controlled much better; therefore, first efforts were centered on mixing and handling cement slurry. A water displacement meter was installed on discharge of cementing trucks' water pumps, which provides an accurate water gauge. Instructions were given that a liquid seal must be maintained over suction of slurry pump, thereby reducing the entrance of air to a minimum. Air inclusions from this source may be serious, as they must either be forced up and out of the mixture, causing agitation, or be trapped as voids, rendering the cement less impervious to water. High pressure valves and fittings, including steel rotary hose, were designated as standard equipment. These changes minimized the failures of equipment resulting in serious delays and enhanced the assurance of a highly desirable uniform mix. Hard and soft places in final set shown in Sketch No. 1, Figure No. 2, is the effect of a nonuniform slurry. This is due to denser mixes hydrating faster and trapping the excess water in place. Figure No. 1 is a two-plug cement head designed to conserve time and eliminate air pockets. With the use of this head, 500 sacks of cement have been placed in 40 minutes. It is a well-known fact that the longer a cement slurry is agitated, the less the ultimate strength. The plugs in container are so arranged that they can be released at will by merely pulling out plungers and closing and opening valves. In case of pump trouble a charge can be made on 2-inch manifold with only a few minutes delay. Its only disadvantage is that extra long bails are required. In order to facilitate the control of water cement ratio, G. G. Bloxsom prepared Graphs Nos. 1, 2 and 3 with following instructions.

A method by which the water-cement ratio can be controlled without difficulty has been devised with the use of Graphs Nos. 1, 2 and 3.

At the time these graphs were being plotted, both cementers and field men were kept in mind as having to be pleased. Graph No. 1 was made primarily for the use of the cementer. With the aid of the water displacement meter recently put on the cementing trucks,

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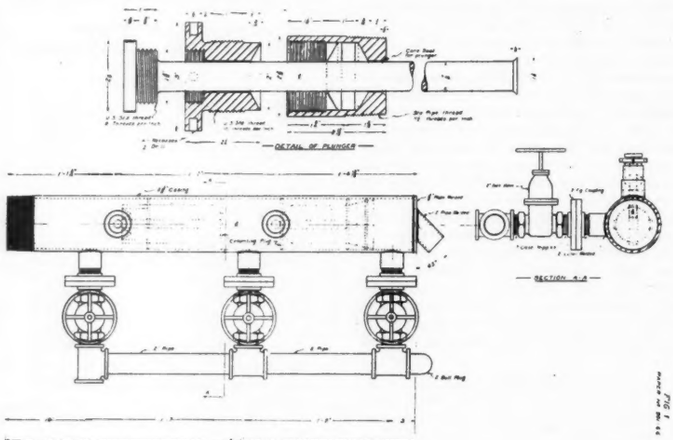
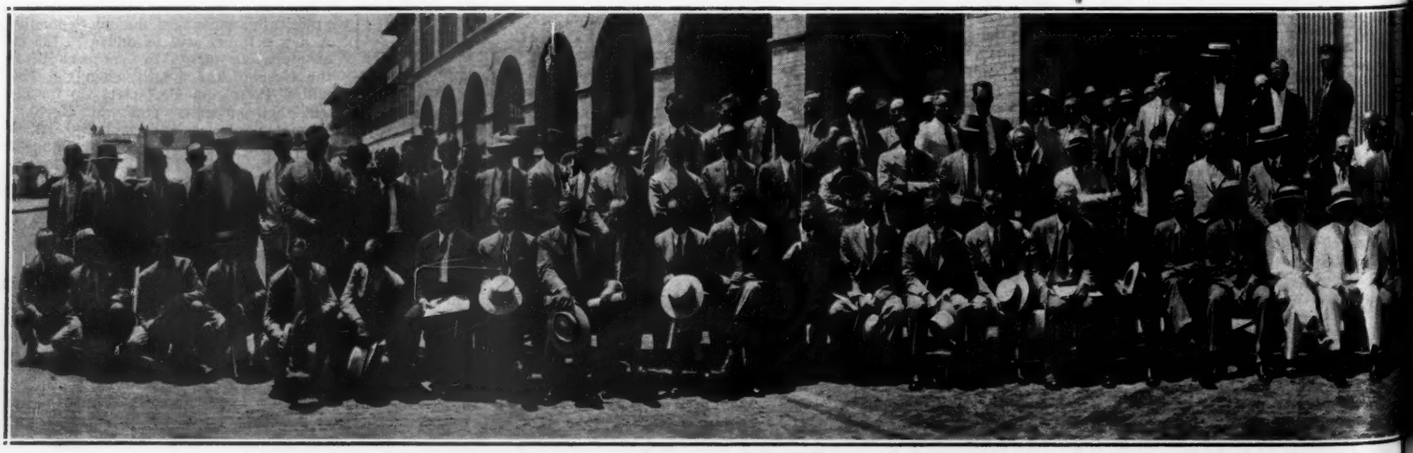


Details of cement head manifold.

*Before Galveston meeting, Southwestern district A.P.I. Division of Production.

Those in Attendance at Galveston Meeting, Sowe



Production Men Meet at Galveston

Most Successful in Point of Attendance and Interest Manifested in Discussion of the Problems Presented

By Neil Williams

GALVESTON, Tex., Sept. 6.—The third fall meeting of the Southwestern District of the American Petroleum Institute Division of Production held at Galveston September 4 and 5 has gone on record as being the most successful of the seven district meetings so far conducted. Not only from a standpoint of large attendance were those in charge pleased but the interest manifest in the prepared papers and open discussions was believed the greatest yet displayed.

The four states of Texas, New Mexico, Louisiana and Arkansas, which comprise the district, were each well represented, and the total registration was closed with a list of 218 names, a record for these meetings. Of particular significance was the fact the majority of these were on hand for the opening session remaining through the entire program. A large portion of those present were men from the field, the class A.P.I. officials always have attempted to reach, and the fact that they came for the good to be obtained rather than the entertainment lure of Galveston was evidenced by the attendance at each session. Always the "Standing Room Only" sign was appropriate.

The sessions were devoted exclusively to the reading of the technical papers, discussions of these and a general open forum of various oil field developments and engineering and operating problems. The "Question Box" which took up the greater part of the closing session Friday morning was one of the most interesting features of the program and at which every field man had every opportunity to ask suggestions for the betterment of his work and to air his opinion on any phase of operations.

The opening session Thursday morning was called to order by the chairman of the district, W. H. Meier, engineer for the Atlantic Oil Producing Co., Dallas, Tex., but deviating from custom he turned the Thursday sessions over to the district chairmen. At the morning session Melbert Schwarz, engineer for Rio Bravo Oil Co., Houston, and district chairman for the Gulf Coast, presided. In the afternoon C. W. Alcorn, Shell Petroleum Corp., Fort Worth, and district chairman for West Texas and New Mexico, was in charge.

A.P.I. Specifications

The first paper on the program, read by W. C. Shutts, petroleum engineer for Humble Oil & Refining Co., Houston, was devoted to findings of a "Survey of Oil Field Equipment for Conformance to A.P.I. Specifications." Mr. Shutts had made a check of various supply companies and had learned that a majority of manufacturers were attempting to comply with the standards as set up by the American Petroleum Institute. He brought out the fact, however, that although the majority of operators specify equipment of A.P.I. standards little attention is given to inspection of purchased equipment to determine if it is in accordance with the standards. Mr. Shutts' report was published in The Oil and Gas Journal September 4.

This paper was followed by a discussion in which equipment manufacturers' representatives took the chief part telling what had been done by equipment men in meeting the standards and what problems had been met in doing this. All expressed their desire for co-operation.

Preventing Blowouts

The second paper was a group paper by the Southwestern District Committee on Drilling Practice composed of C. W. Alcorn, chairman, J. C. Abercrombie, W. D. Brookover, H. B. Hurley, J. I. Roberts, T. S. Schroeder, Melbert Schwarz. W. C. Thomas and A. H. Weyland. It was read by Mr. Alcorn and was a complete discussion of "Equipment and Methods of Preventing Blowouts in Drillings." This paper also appears in full in another part of The Oil and Gas Journal.

The paper summed up the requisites for prevention of blowouts as follows:

1. Selection and installation of suitable equipment.
2. Ability of equipment to function. To provide this regular and thorough inspection of all equipment was advocated.
3. Proper training of the operating personnel.
4. Proper selection, manufacture and control of weights of drilling mud.

In opening the discussion of this paper, Stanley Gill of the research department of the Gulf Production Co., Houston, laid stress on the value of adequate equipment and proper inspection of working parts but placed the greatest responsibility on proper drilling muds. He urged extreme care in the selection of the most suitable mud, admixture or chemicals, and emphasized the need of correct and uniform mixing, the latter to be assured by frequent regular inspections and tests of fluidity and weight.

W. T. Doherty, petroleum engineer for Humble Oil & Refining Co., followed Mr. Gill, basing his discussion on the fluidity of drilling muds. He pointed out that viscosity of drilling mud should be considered in efforts of operators to increase the weight of their mud. He explained it was not particularly the heavy mud which was most desirable in prevention of blowouts but rather a mud which had the ability to resist gas cutting.

Insulating Boilers

One of the most complete, yet concise, papers read at the meeting was by Mr. Meier, the general chairman, on "Advantages of Insulation on Oil Field Boilers." This paper was printed in full in the September 4 issue of The Oil and Gas Journal.

Following this paper was one of the most interesting features of the meeting, a demonstration of the various types of insulation of oil field boilers and lines and an explanation of methods of application. This was given by W. W. Bates, a representative of an insulation manufacturing company. His discussion was absolutely devoid of any effort to stress a particular make and was considered by all as an extremely impartial and fair handling of a discussion on insulation.

Mr. Bates had with him samples of every type of insulation. The first type was the blanket type, this insulation being obtained in small pads or sections and laced on the boilers by wire looped through hooks and eyes around the edges. The next type was the magnesia block, which is provided in strips and also fastened on the boilers in sections. The third type shown was asbestos cement. This type, Mr. Bates explained, is applied by mixing the asbestos cement powder with water to a consistency of mud and plastering it on the boiler. Three coats of this are applied. With the application of the first coat the boiler is wrapped with ordinary wire for reinforcement and on this is plastered the second coat of asbestos cement paste, and then the third coat, this to be followed by a coat of waterproof paint.

Various methods of insulating steam lines also were shown with the demonstration of types of covering. These included the magnesia covering and the eight-ply air sections. Both are obtained in sections to fit around the pipe and are clamped on. Some types, he explained, come with waterproof roofing covers but those insulations which do not have these features should be wrapped with ordinary roofing paper and fastened with wire.

Mr. Bates stressed the necessity of having the boiler hot when applying asbestos cement insulation. Contrary to the opinion of some operators, he explained, a boiler should never be cold when this is done. He also advocated a liberal thickness of the coats explaining that the efficiency of the boiler varies from 80 to 90 per cent according to the thickness.

Installing Separators

The first paper of the afternoon session Thursday was one by E. H. Adams, Trumble Gas Trap Co., Los Angeles, Calif., on the "Proper Method of Installing Oil and Gas Separators." This paper, along with others, was carried in full in The Oil and Gas Journal September 4 and need not be dealt with at this time except to stress the point brought out that the location of separators and traps plays an important part in the efficiency of operation. In the past altogether too many operators have given practically no attention to this angle and located separators in a haphazard manner as convenience dictated. The paper, illustrated with lantern slides, dealt with the effect of the installation of separators upon the conservation of gasoline vapors and of the oil in storage; the influence on gasoline plants, oil storage equipment and actual flowing of the wells.

"Further Development of Cementing Practice in the Gulf Coast Area" was the subject of the paper prepared by W. T. Doherty, petroleum engineer, and M. Manning, drilling superintendent in the Gulf Coast, for the Humble Oil & Refining Co. It was read by Mr. Doherty. The paper represented the accumulation of the information which these men had obtained in their extensive studies of the cementing problem on the Gulf Coast. These studies for the Humble Oil & Refining Co. have extended over several years and have gone thoroughly into the subject of what causes the fre-

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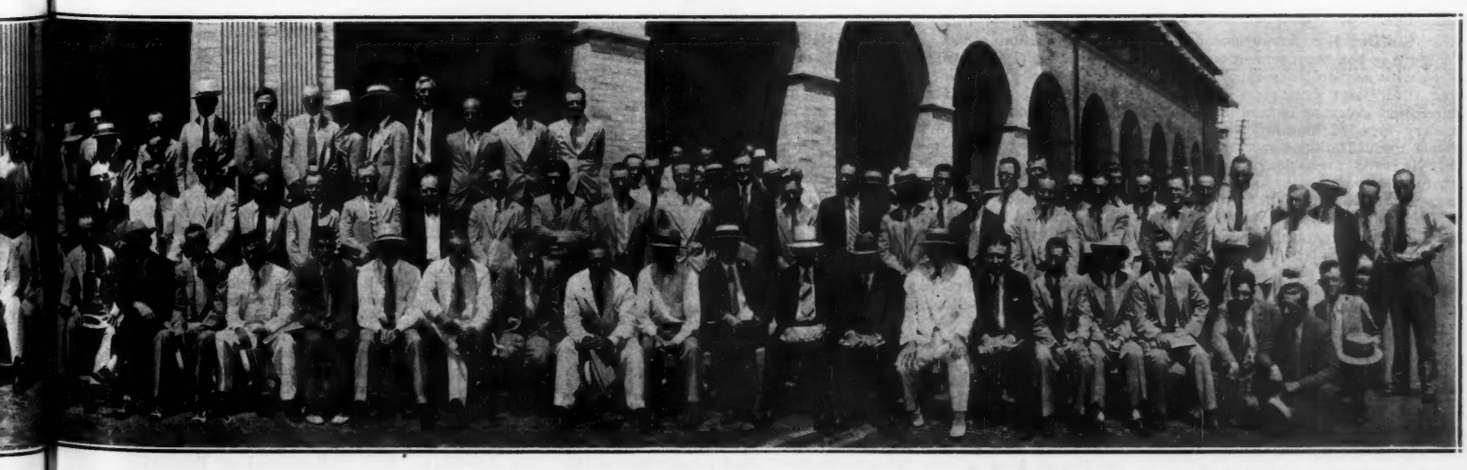
Southwestern District, A.P.I. Division of Production



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Preventing Blowouts While Drilling

Equipment and Methods Outlined by Special Committee of Mid-Continent Engineers Who Studied Important Problem

By the Drilling Practice Committee of Southwestern District, A.P.I.*

The prevention of blowouts while drilling with rotary rigs, and the ability to drill with cable tools holes making large quantities of oil and gas without the extreme fire and mechanical danger is very desirable to everyone connected with the business of drilling wells for oil or gas.

Blowouts cost the oil business many thousands of dollars each year for physical expenditures alone, much oil and gas is wasted, and the danger to workmen on wells from this cause is great. It will naturally seem to many that to discuss this subject in a paper is superfluous, because the expense, waste and danger occasioned by blowouts in drilling is fully well known to everyone in the oil business. To illustrate, however, that a paper on this subject may be of assistance in calling certain methods and practices of blowout prevention to mind, we wish to state that in the spring of this year it was found necessary by the Corporation Commission of Oklahoma to pass a ruling that all companies and contractors in the Oklahoma City Field must equip their wells to prevent blowouts. Up until that time only a few wells in the entire Oklahoma City Field had used master drilling gates and blowout preventers while drilling. The main trouble with many operators in regard to this phase of drilling is that they do not consider the seriousness of blowouts until they occur and have to be controlled. In no business is that old axiom, "an ounce of prevention is worth a pound of cure," more true than in the business of drilling oil and gas wells.

There are numerous makes and types of blowout preventers for rotary drilling on the market. Some of these preventers that pack off against the drill pipe are attached to the inner string of casing and are stationary with manual or steam-operated rams. Some preventers attached to the inner string of casing pack off against and rotate with the kelly. It is possible with the latter type to drill against pressure where it is found desirable to use clear water instead of mud in drilling through high pressure gas horizons or where pressure is so great that a column of pumpable mud fluid will not hold the gas pressure. There are four, possibly more, hydraulic rotary rigs being manufactured at this time. Flush joint drill pipe is customarily used with these rigs and while an ordinary type blowout preventer can be used with any of them, all three manufacturers have developed stuffing box types of blowout preventers to drill through with flush joint drill pipe. With the stuffing box and flush joint drill pipe it is possible to drill against pressure at all times. The well may be prevented from blowing out by closing a gate on the mud discharge line.

Stuffing Box Arrangement

A stuffing box arrangement can be employed with any ordinary type rotary rig, using flush joint drill pipe. It is considered that everyone is familiar with the ordinary type of blowout preventers in general use. High-pressure areas, especially in sand formations, require more elaborate hook-ups. In such cases, it is common practice, in addition to the regular ram type blowout preventer, to install the stationary stuffing box type of preventer immediately above to insure complete shut-off.

An important point to be considered in regard to manually operated blowout preventers is the location of the controls. It is the general opinion that remote control should be practiced. Remote control can be arranged by extending the control shaft of the rams approximately 60 feet from the preventer with 3-inch pipe, using universal joint for connecting the 3-inch pipe to the control shaft. The control wheel should be sufficiently large for two men to operate on it at the same time. On any ordinary type of blowout preventer the ram should be tested daily or as often as seems advisable to insure against their being jammed when needed. Steam-operated preventers should be tested many times daily to insure their working condition. Drilling crews should have frequent practice drills on closing manually operated preventers. In almost every instance of preventing a blowout with a blowout preventer speed in closing the rams is very important.

Back Pressure Valves

The common practice in preventing blowouts through drill pipe is to use back pressure or float valves. Where high pressures are encountered it is good practice to use two back pressure valves, one near the bit and one about midway in the string of drill pipe. This is good insurance against one of the back pressure valves failing to operate. It often may be advisable, in addition to two float valves, to use a quick-opening high-pressure valve just above the swivel.

On all wildcat wells and wells in areas where high pressure for the depth of the hole are known to exist, equipment such as has been described above should be used when drilling through formations known to possibly contain oil or gas.

Blowout prevention equipment should be considered in the light of emergency equipment and should not be relied upon to prevent blowouts except when certain conditions render proper drilling fluid useless in holding down gas. Blowouts will not occur in drilling when proper drilling fluid is being used except when circulation is lost in a cavity or stopped by shale heaving into the hole or when such high pressures are encountered that the heaviest pumpable column of fluid will not hold back the gas. Therefore, the most effective way to prevent blowouts is to circulate mud fluid of proper weight according to the depth of the hole to hold down the known pressure of the area or the pressure of the formation to be encountered as known by pressures existing in the same formations elsewhere in the country.

In some parts of the country thick beds of clay and shale are drilled through and a sufficient quantity of good mud is made for the drilling of the well. In many other parts of the country it is necessary to manufacture mud for the hole from clay. This practice is necessary in almost every field in West Texas. Some holes make large quantities of mud, but of such weight and quality that it is of very little assistance in holding down heavy pressures or walling up the hole. In these cases it may be just as necessary that proper mud be manufactured for the hole as it is in areas where little mud is made from the formations in the hole. There is considerable difference in clays from which mud can be manufactured as to weight and purity. The best clay for manufacturing drilling mud (if different grades are available) is the clay that has

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*J. S. Abercrombie, W. D. Brookover, H. B. Hurley, J. I. Roberts, T. S. Schroeder, Melbert Schwarz, W. C. Thomas, A. H. Weyland and C. W. Alcorn, chairman. Presented at the fall meeting, southwestern district of the American Petroleum Institute, division of production, Galveston, Tex.

Stage Is All Set for Big Oil Show

Co-operation of Many Associations Affiliated With Petroleum Industry and Other Concerns Assures Success

By W. G. Skelly
President, International Petroleum Exposition

Increasing each year its hold upon the interest of the men engaged in the various branches of the oil and gas business, the Seventh International Petroleum Exposition and Congress, scheduled for October 4-11, in Tulsa, is setting the stage for the largest and most instructive industrial show in the world.

No efforts have been spared in repaying the confidence of the hundreds of executives who are sending their key men to the oil show. No slightest phase of the industry, scientific, routine field and plant work, commercial, administrative or relating to local and international policy, has been overlooked. No restrictive policies limit the range of this impartial university, and oil and gas employes, high or in modest position, may confidently look forward to filling in the gaps in their experience with the most up-to-date facts available.

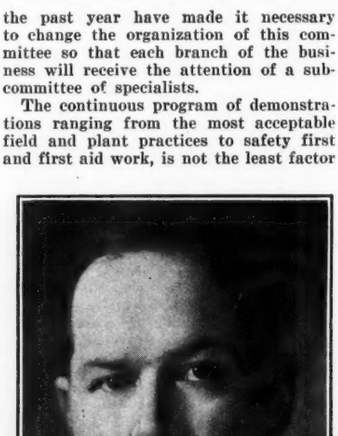
Significant of the important place the "World's Fair of the Oil Industry" holds is its power to draw the most influential organizations of the business. Holding their annual meetings in Tulsa during the exposition season are the directors of the American Petroleum Institute, presided over by President E. B. Reeser; the general committees, A.P.I., divisions of production and marketing; the general committees, A.P.I., division of refining; national petroleum meeting, American Society of Mechanical Engineers, with President Charles Piez presiding.

The society of mechanical engineers has followed its construction of an $85,000 automatic pipe line pumping station, a research project, at the oil show grounds, with a very interesting and valuable program of papers, to be presented in the auditorium, October 6, 7 and 8.

Associations Co-operate

The general committee on scientific and technical displays has announced that the department of the exposition covering this phase of the industry will be the most complete ever presented. The activity which has marked the laboratories and workshops of the industry during the past year have made it necessary to change the organization of this committee so that each branch of the business will receive the attention of a subcommittee of specialists.

The continuous program of demonstrations ranging from the most acceptable field and plant practices to safety first and first aid work, is not the least factor in making the oil show really worth while.



W. G. Skelly

Actively co-operating with the officers and directors of the oil show are the following societies and associations devoted to furthering the interest of those engaged in the oil and gas industry and the understanding which must characterize the relationship between the industry and the public: The American Petroleum Institute, especially the board of directors, the division of standardization and the division of production and development engineering; the American Institute of Mining and Metallurgical Engineering, petroleum division; the American Society of Mechanical Engineers, petroleum division; the American Chemical Society; the American Welding Society; American Association of Petroleum Geologists; the American Association of State Geologists; the National Safety Council, petroleum division; the United States Bureau of Mines, petroleum division; the Mid-Continent Oil and Gas Association, of which the safety division takes an important part in the exposition program in the lines of first aid and safety first demonstration; the National Petroleum Conservation Service; the Natural Gas Association; the Natural Gasoline Manufacturers Association of America; the Natural Gasoline Supplymen's Association; the Purchasing Agents Association, oil and gas division; the Scouts and Land Men's Association; the Mid-Continent Royalty Owners Association; the Independent Petroleum Association of America.

Other Supporters

The men who wish to make the 1930 "World's Fair of the Oil Industry" the greatest educational factor in the business are grateful also to the following ardent supporters for their many services:

The United States Department of Commerce; the United States Bureau of Standards; the geological surveys of Oklahoma, Louisiana, Colorado, Kentucky, Texas, Arkansas, New Mexico and Kansas; the governments of Venezuela, Canada, Mexico, Germany, France and Rumania, which have already announced that they will participate actively; the American Express, which has published much information about the oil show abroad and has arranged an itinerary which begins at Southampton, England, September 24, and includes an eight-day visit at the exposition; the

(Continued on Page 110)

Hugoton Gas Field Has No Dry Holes

Interest in This Area of Stevens County, Kansas, Intensified Since Pipe Line Companies Became Busy

By E. G. Woodruff

Stevens County is in southwest Kansas. It is east of Morton which is in the southwest corner of the State. As shown by the accompanying map, the gas field has spread over more than half of the county though most of the wells are in the western half. The center of the field is 100 miles north and 30 miles east of Amarillo, Tex. Hugoton, which is on the Elkhart branch of the Santa Fe Railroad, is the center of the field and the supply point. Within the field it is 16 miles between the most eastern gas well and the one farthest west; from the most northern to the most southern is 29 miles. There are approximately 350 square miles with more than 50 gas wells and no dry holes in the area. As suggested below, the east-and-west limits probably have been reached but there is nothing to show the southern or northern extent. The most northern well is better than the average and those in the southern part of the field are producers in commercial quantities. Most probably there will be gas wells to the north in Grant County and to the south in Texas County, Oklahoma.

The first well in the field was drilled by the Independent Oil & Gas Co. three years ago in the C SW, Section 31-33-37. A log of that well is presented here. The second well was Trees Oil Co.'s No. 1 Gandy, C SW, Section 3-35-38. A few

INTERESTING AREA

Interest in the Hugoton gas field in Stevens County, Kansas, has been intensified since the beginning of construction of three major natural gas trunk pipe lines from this area and from the Texas Panhandle to points north and east. Mr. Woodruff, a consulting geologist of Tulsa, has been studying this field and was persuaded to present the data now available rather than to wait for a complete finished report. The accompanying article represents the data he has compiled to this time.

as 500 feet. These beds cave badly in drilling but on the other hand furnish plenty of fresh water for drilling even where rotary is used. It is the custom to follow the staking of a location for a deep well by drilling a water well with a small portable water well outfit to a depth of 160 to 180 feet and to complete this well with a gas jetting equipment and jet the water into the supply tank. One of these shallow water wells will supply all the water needed for a heavy rotary drill.

Red beds are below the alluvium. These strata are mostly red sandy shale and sandstone, with a considerable amount of gypsum, some dolomite and limestone. The log presented as a type shows no other wells followed. These called attention to the field and led to the extensive drilling which began early this year. There are now 38 wells drilling and others are contemplated though recent reports indicate a decrease in drilling during the next few months. The distribution of a majority of the wells and the locations are shown on the accompanying map.

Geology

The surface of the field is a treeless plain which is almost level in the central part of the field with sand hills both to the east and to the west. The surface formations are alluvial; the surface is a part of the Great Plains formed by the outwash from the Rocky Mountains. These strata, as shown by the accompanying log, are sandy—largely quicksand—and extend to a depth of as much gypsum or dolomite but cuttings from adjacent wells are partly gypsum and dolomite, therefore, it is assumed that some of the formations in the Crawford well logged as lime are dolomite and gypsum. The Crawford well found the bottom of the prevalent red strata at 2,240 feet, therefore, this group of formations is nearly 1,600 feet thick. They are the usual red beds to the driller—cavey, locally so porous that all returns are lost and altogether difficult to drill.

From 2,240 to 3,500 feet there is shale sand and limestone. As far as the writer is aware no fossils have been found to determine the age of this group of strata. The character of the beds and the appearance of the cuttings closely resemble the Permian and the strata are, therefore, classed that way. However, this group of beds may be Pennsylvanian or even earlier.

Structure

There are data at hand to determine the structure only in a general way. Over the main part of the field the formations are nearly level. Along the east line of Range 37 there is a considerable dip to the east. The Carpenter well, NW, Sec-

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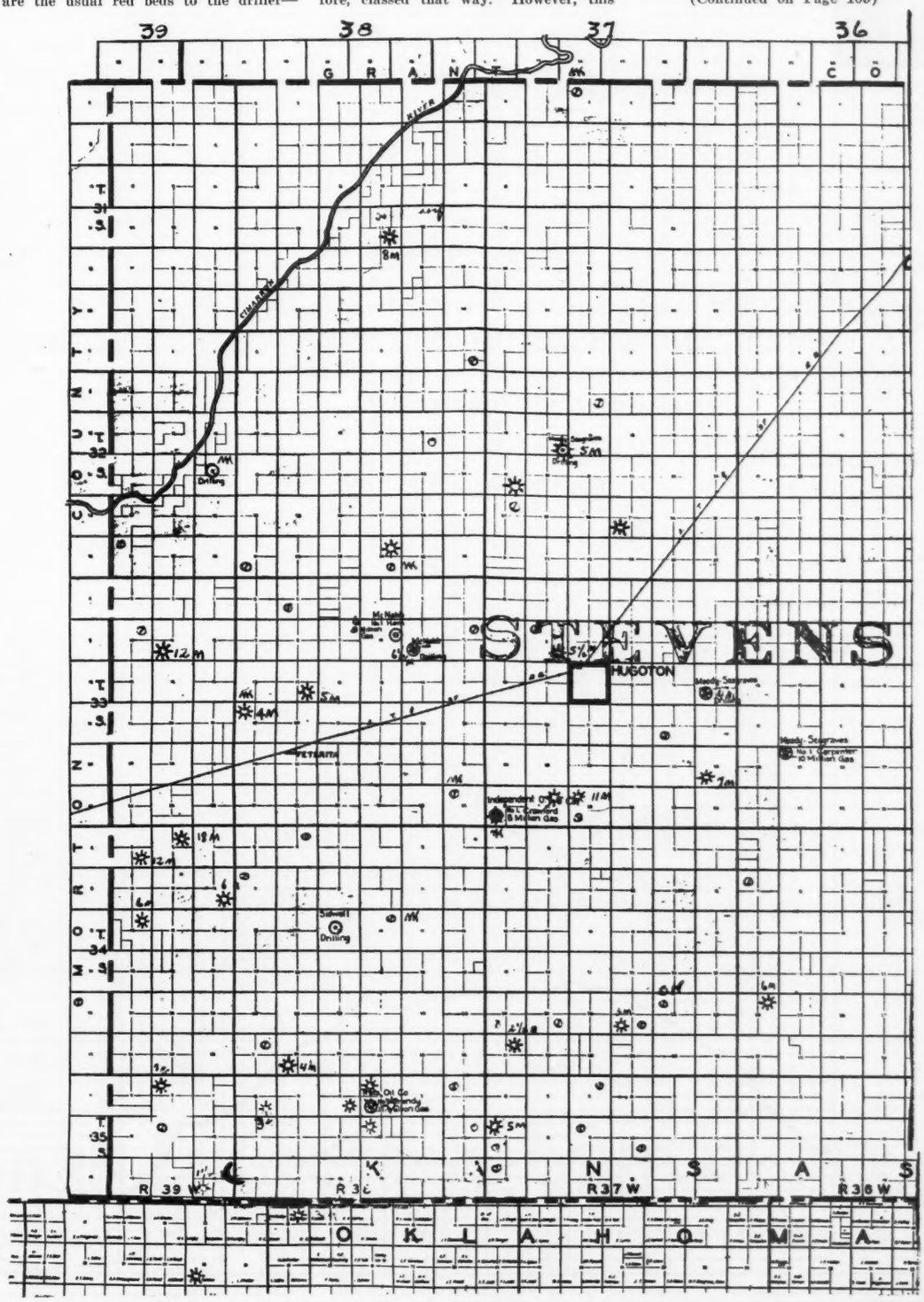


Map of Hugoton gas field, Stevens County, Kansas. Production of gas wells is shown in million feet.

Traffic Laws Need Careful Study

Automotive Transportation Division of A.P.I. Gives Consideration of This and Other Problems at Tulsa Meeting

By L. G. E. Bignell
Petroleum Engineering Editor

Another good example of the detail with which the various branches of a modern oil company are organized will be found in the methods used in handling automobile transportation in the production, marketing and pipe line departments of the larger companies.

Years ago the industry depended upon horse or mule-drawn vehicles for transportation of its men and materials and each detail was left more or less to the discretion of the individuals and the teamsters, known throughout the industry as "mule skinners," who moved the machinery and pipe in their own ways.

With the introduction of the automobile into general use in this country, it was found that the mechanical problems of upkeep and operation were so numerous that they had to be placed under the supervision of picked men.

In the earlier days of this mode of transportation the men who were in charge of the company garages and machine shops had most to do with the upkeep of the automobiles, but as other problems were introduced the major companies found it very necessary to organize motor transport departments placed in charge of competent men who were trained to handle the many details involved in distributing refinery products, as well as providing transportation for company employes and handling equipment.

This change was gradual and at first each company considered its truck and car operations as strictly a matter of its own concern and gave little heed to the needs of coworkers in the fields. When a truck or car was stuck in the mud or was off the road in the ditch another company employe did not consider that it was any business of his and drove by without rendering assistance.

It is stated that in the Seminole area during the boom period of 1926 and 1927 when that practice was in force one company paid out during one month about $800 for expenses of pulling cars and trucks out of mud holes and ditches.

The following month after the companies had agreed that such practice could be eliminated if each company employe was instructed to give assistance to any other company man in trouble on the road, this company's bill for pull out expense was reduced to $25 for the entire month. This emphasizes the value in dollars and cents in co-operation.

Motor Transport Group Formed

Out of this decision to help each other grew an association made up of superintendents of the various motor transport departments of the major oil companies in all parts of the country and this was later affiliated with the American Petroleum Institute and now functions under the title of the Committee of Automotive Transportation and is divided into three geographical groups, Eastern, Central and Pacific Coast, which are further subdivided into divisions of production and marketing so that the members will be able to be active in that particular department in which their interest chiefly lies.

At the fall meeting of the Central group held in Tulsa September 1, 2 and 3 there were many problems of major importance discussed that were of interest not only to the members directly concerned but also to the industry as a whole and to all persons operating automobiles.

The members indicated by their discussions that they were fully alive to the importance of their duties and one of the principal phases of their work brought out during the discussions was their feeling of responsibility to the general public for the courtesy of their drivers on the road and their resistence that rules formulated for the guidance of the drivers be carefully followed.

An excellent example of what has been done along that line can best be shown by citing some of the rules that the Indian Territory Illuminating Oil Co., Bartlesville, Okla., has adopted under the guidance of its superintendent of transportation, A. L. McMilan.

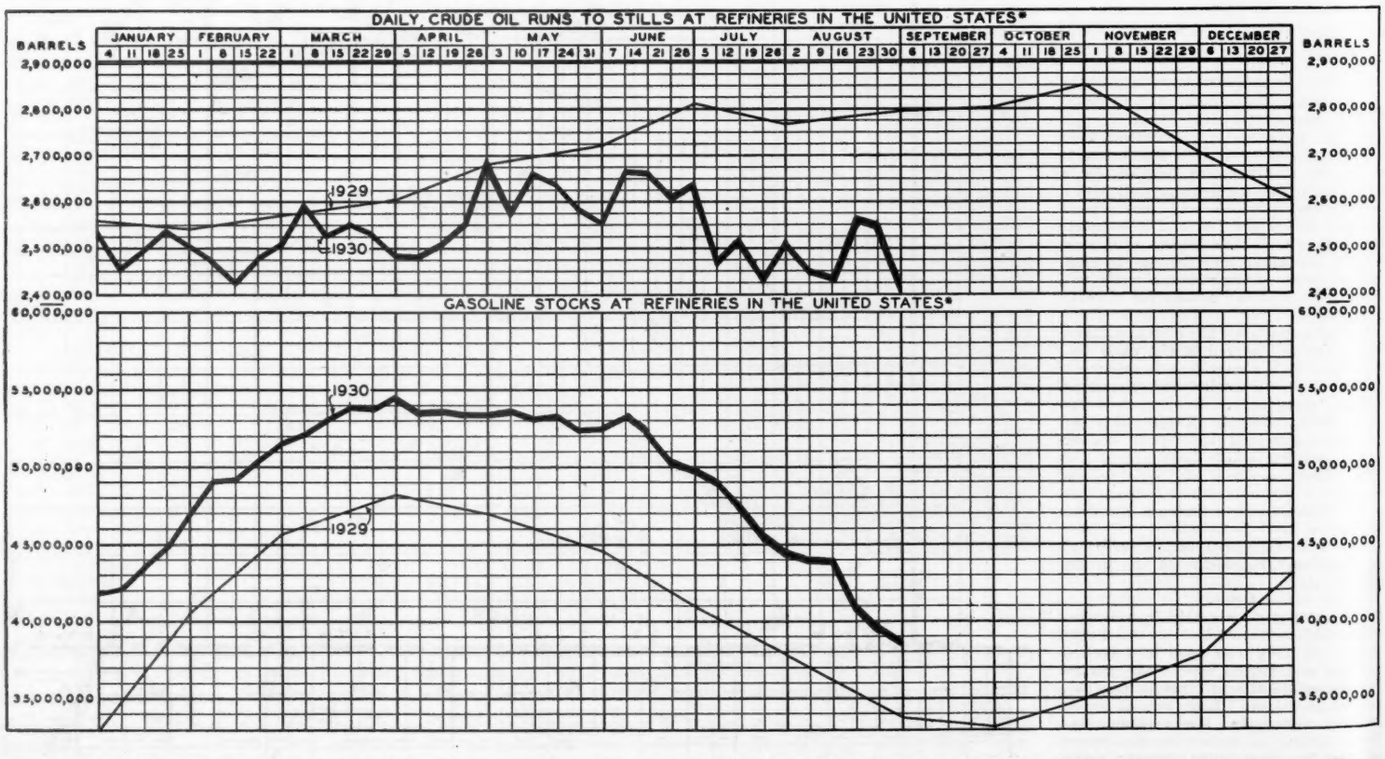
(Continued on Page 108)

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending September 6.

	Week ending September 6				Week ending August 30				Week ending January 4			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	483,000	5,906,000	11,060,000	100.0	499,700	5,714,000	10,772,000	100.0	454,857	5,998,000	7,431,000
Appalachian	91.8	71,400	1,188,000	1,065,000	91.8	86,600	1,217,000	1,033,000	91.6	75,571	1,282,000	805,000
Indiana, Illinois, Kentucky	99.6	276,400	5,881,000	4,409,000	99.6	287,400	6,049,000	4,413,000	98.6	289,800	5,483,000	3,505,000
Oklahoma, Kansas, Missouri	89.3	249,300	2,691,000	4,806,000	89.3	248,900	2,940,000	4,808,000	87.7	263,428	3,604,000	3,277,000
Texas	90.4	519,000	6,025,000	10,199,000	90.4	542,400	5,669,000	10,186,000	90.7	539,857	6,590,000	13,757,000
Louisiana and Arkansas	96.8	161,400	1,191,000	2,036,000	96.8	174,400	1,234,000	1,945,000	96.8	160,000	2,161,000	4,499,000
Rocky Mountain	93.6	50,200	1,969,000	1,183,000	93.6	53,400	2,054,000	1,208,000	93.3	41,614	2,273,000	973,000
California	99.3	551,700	13,722,000	105,572,000	99.3	546,300	13,938,000	105,297,000	99.3	642,857	14,826,000	109,770,000
Total United States	95.6	2,362,400	38,573,000	140,330,000	95.6	2,439,100	38,815,000	139,662,000	95.4	2,468,285	42,217,000	144,017,000
Texas Gulf Coast	100.0	394,900	4,759,000	7,319,000	100.0	409,100	4,369,000	7,292,000	100.0	429,585	5,579,000	10,792,000
Louisiana Gulf Coast	100.0	119,400	822,000	1,314,000	100.0	122,400	916,000	1,214,000	100.0	108,514	1,877,000	3,818,000

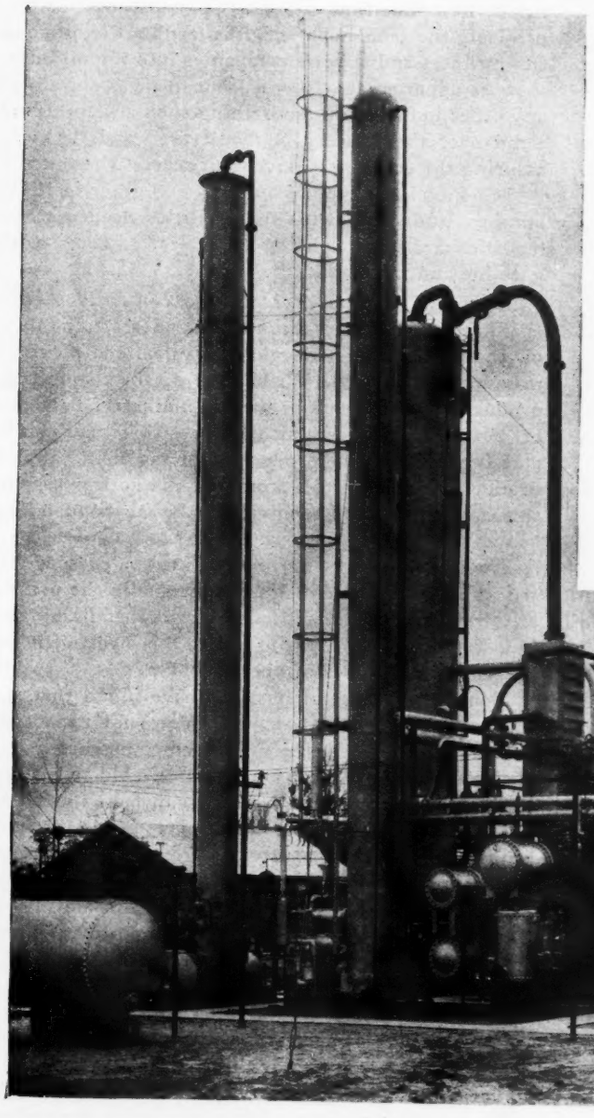
(1) Per cent of refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



Data for 1930 based on weekly reports of the American Petroleum Institute. Data for 1929 derived from monthly reports of the Bureau of Mines, Department of Commerce. Figures for last week not shown in graph but are included in above tables.

SOUTHWESTERN Rectifying Plants

FOR THE PRODUCTION OF



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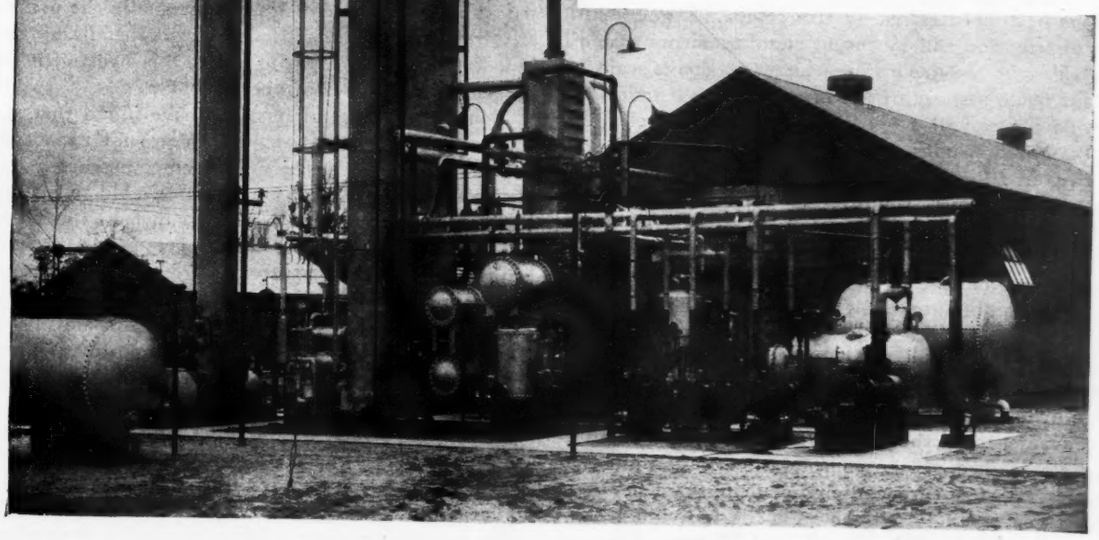
(*aviation fuel*)

A liquified propane or butane gas
(*Industrial and domestic fuel*)



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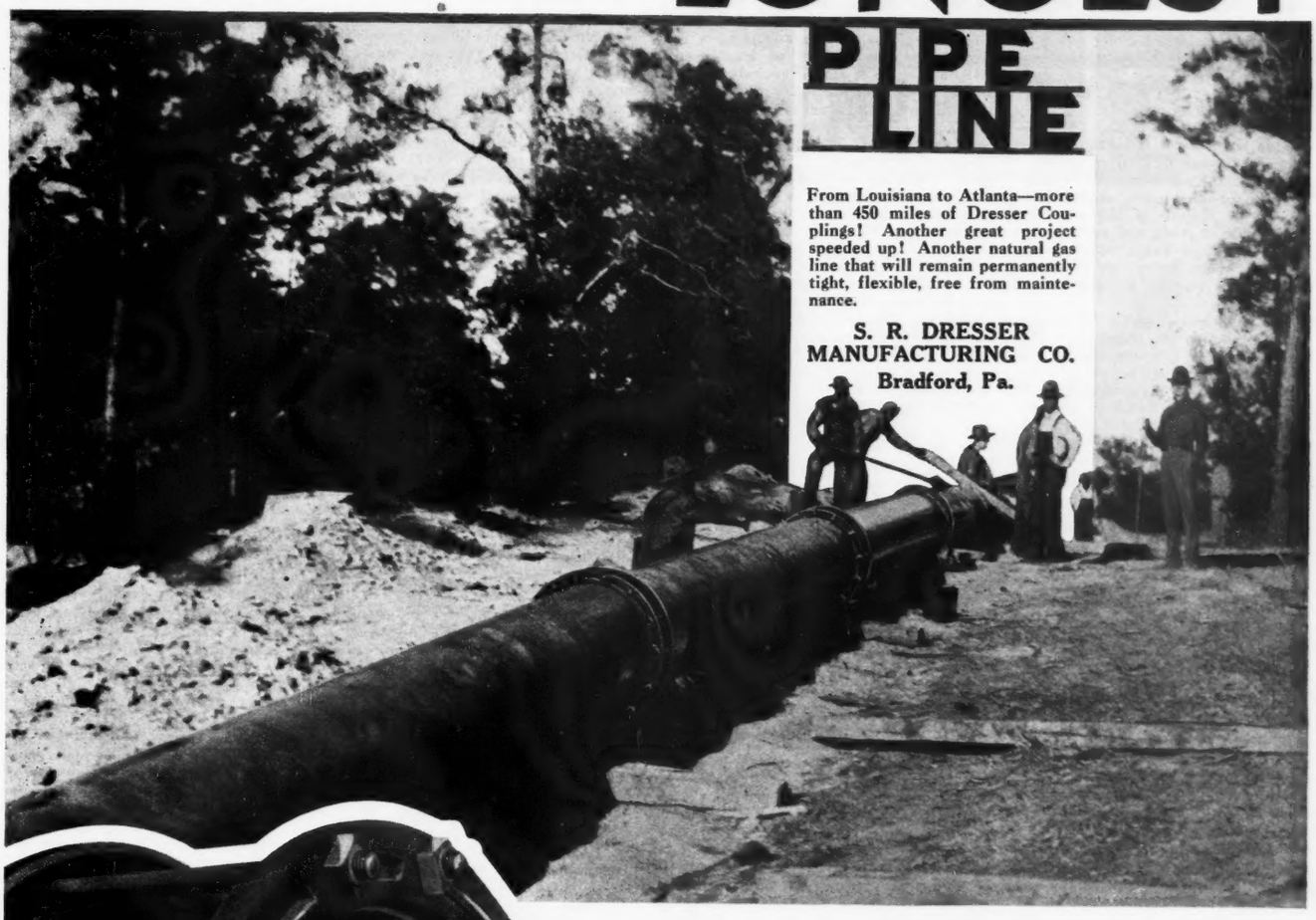
On the SOUTH'S LONGEST PIPE LINE



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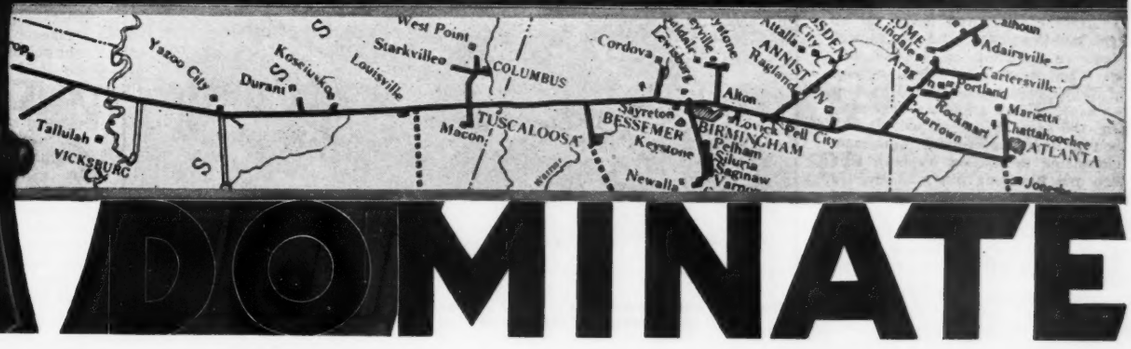


DOMINATE

Fuel Requirements of Aircraft Engines

Problem of Securing Satisfactory Aviation Gasoline for All Operating Conditions Not the Same as in the Case of Motor Vehicles

By S. D. Heron
Power Plant Branch Material Division, Air Corps, United States Army*

The requirements of fuel for aircraft engine use, from the viewpoint of the material division of the Army air corps, may be briefly considered under the following headings: (1) Antiknock value; (2) Volatility; (3) Vapor locking and starting properties; (4) Gum, and (5) Available fuels and antiknocks.

1. There is little question that the antiknock value is the most important property of a fuel for use in a spark ignition aircraft engine. Fuel deficient in antiknock value for any given engine will result in rapid failure of the cylinder unit as a result of stuck and melted pistons, overheated and burnt out exhaust valves, and spark plug overheating, which at times results in melted insulators.

The fuel required depends upon the design of the engine, the compression ratio, the degree of supercharging the design, size and temperature of the cylinder unit, and the rate of revolution. Until recently, Mid-Continent domestic aviation gasoline having an approximate antiknock value of 50 octane (2-2-4 trimethyl pentane) 50 heptane has been the most generally used American aircraft engine fuel. Provided the engine output is kept within the limitations of this fuel, it gives excellent results, but fuel is not suitable for many modern military or commercial engines if they are flown wide open at sea level. Mid-Continent D.A.G. is inferior in antiknock value to much of the low test automobile gasoline on the market.

For most modern commercial and military engines, with the exception of high compression and ground boosted types, fuel having an approximate antiknock value of 70-75 octane, 30-25 heptane is amply good enough, with certain reservations as to fuels which show excessive loss of antiknock value at high cylinder temperature. This antiknock value is roughly that of premium automobile gasolines of the cracked and doped types.

Antiknock Values Vary

For high performance engines of the ground boosted high compression and high cylinder temperature types, the air corps has the present intention of standardizing an antiknock value of 87 octane, 13 heptane. The relative antiknock values of fuels for aircraft purposes appear to vary widely with test engine conditions, at least when tested by the method of working at part throttle and a pronounced knock. The most pronounced change in relative values is produced by variation of cylinder temperature, particularly when comparing lead and benzol in highly naphthenic California gasolines. In measuring detonation by the tendency to heat the cylinder unit, the material division has found that the amount of tetraethyl lead required to equal 50 per cent benzol in a California fighting grade gasoline varies by several hundreds per cent between the limits of 200 and 400° F. cooling liquid temperature, the lead requirement rapidly dropping with increasing jacket temperature. Similar tests of lead and benzol in an average Mid-Continent D.A.G. showed that, between the limits of 150 and 400° F. jacket temperature, the lead equivalent of 50 per cent benzol varied by over 100 per cent. Using a similar California gasoline, the same Mid-Continent D.A.G. and benzol, the same engine equipment and measuring detonation by both temperature and bouncing pin methods, the Ethyl Gasoline Corp. and the Standard Oil Development Co. have found that, at 350° F. jacket temperature, the lead equivalent of 50 per cent benzol is subject to more than 100 per cent variation, both as a result of change of rate of test engine revolution and of knock intensity.

Failure of an aircraft engine as a result of the use of fuel of insufficient antiknock value is almost entirely always the result of overheating of the cylinder unit. There is evidence that the relative tendencies of fuels to knock audibly and their tendencies to heat the cylinder unit are not always equal. Therefore, a temperature method of rating fuels for aircraft use may prove to be more desirable than one depending upon intensity of knock. Thus, the problem of rating aircraft fuels may prove to be distinctly different from that of automobile fuels, and investigation of this problem seems to be desirable. In this connection, some evidence is obtained in multicylinder aircraft engines which suggests that tetraethyl lead has an effect in suppressing overheating of the cylinder unit which is out of proportion with its properties of suppressing audible knock and controlling the rate of pressure rise.

As aircraft engines vary vastly as to cylinder temperature and rate of revolution, the problem of measuring the antiknock value of fuels for aircraft use in terms of their usefulness in multicylinder engines is very complex. For its solution, it seems probable that a variety of types of multicylinder engine must be tested with a variety of base fuels, the amount of antiknock material necessary in each fuel for optimum performance being determined. Fuel test engine conditions and possibly a test engine type must then be obtained which, on the average, match the average results obtained in multicylinder engines.

While anything like a complete knowledge of the relative behavior of different fuels in multicylinder aircraft engines and fuel test engines is probably several years off, a test which provides partial control of antiknock value is preferable to no test at all. Therefore the air corps, in its recently issued tentative Specification Y-3,557 for fighting grade antiknock gasoline, has specified test conditions in accordance with its best present judgment, conditions being set so as not to bear unduly on cracked and aromatic blend basis.

Difficult Test

Incidentally, the experience of the material division is that knock testing at high cylinder temperatures is as yet by no means an easy procedure, for the following reasons:

(a) Any suitable liquid for high temperature cooling is extremely difficult to exclude from the combustion chamber if a detachable head with liquid passing the gasket be used. The slightest leak causes rising and falling knock and precludes any accurate testing. This difficulty with leakage of high temperature cooling media is not by any means confined to fuel test engines.

(b) The slightest amount of oil pumping produces effects similar to (1).

(c) The results seem to be much more affected by slight changes of air fuel ratio than they do by addition of antiknock compound to a given fuel. Therefore a relatively insensitive carbureter that not merely maintains the same air fuel ratio from cycle to cycle over a short period, but also maintains a practically constant average mixture ratio over extended periods of running, is necessary.

In this connection, the Ethyl Gasoline Corp. has found that at 212° F. jacket temperature, aviation gasolines are a great deal more sensitive to change of carbureter float level than are motor gasolines. Using a similar test engine, the material division has found that at 300° F. jacket temperature and otherwise similar test conditions, California fighting grade gasoline, with and without lead addition, is roughly four times as sensitive to change of carbureter float level as is Ethyl Gasoline motor standard reference fuel. This sensitivity to float level in the case of the Series 30 Ethyl Gasoline engine is, in the experience of the material division, roughly reduced to one-fourth by increase of engine rate of revolution from 600 to 900 r.p.m. at jacket temperatures of 300 and 350° F.

(d) At low test-engine speeds, the engine takes an excessive time to reach stability when switching from one fuel to another.

Fuel Consumption

2. For minimum fuel consumption without excessive heating of the induction system and consequent power loss, D.A.G. does not appear to be volatile enough. Therefore the Air Corps has, in Specification Y-3,557, which is for use in superperformance engines, adopted Federal Fighting Grade volatility requirements with the substitution of a 10 per cent evaporated point for the present 5 per cent-recovered point. Fuel-injection devices now undergoing test and injecting either into the combustion-chamber or the induction system may allow of the use of less volatile fuel than D.A.G. without power drop or distribution troubles.

3. Vapor-locking is an intermittent trouble with present Air Corps equipment, and gasoline with a 10 per cent-evaporated point much below 150° F. violently accentuates the trouble. Very little of the D.A.G. obtained by the Air Corps has in the past had 10 per cent-evaporated points below 150° F. or in excess of 160° F. Specification Y-3,557 has, therefore, adopted the limits of 144-162° F. for the 10 per cent point and the lower limit can hardly be lowered until fuel systems are improved. A recent case of vapor-lock trouble was traced to the use of natural gasoline meeting all the federal specification requirements for Domestic Aviation Gasoline, the 10 per cent-evaporated point being 137° F. and the Reid vapor pressure 7.8 pounds at 100° F.

Even if the fuel systems are improved so as to allow of reducing the lower temperature-limit for the 10 per cent point, it is possible that any considerable lowering will be undesirable on account of fuel boiling in the tanks of supercharged airplanes, which may reach 30,000 feet altitude in 20 minutes with virtually no reduction of temperature of the fuel in the tanks.

The Bureau of Standards has shown that in propane-free gasolines the 10 per

(Continued on Page 110)

*Eighteenth National Aeronautical Meeting of Society of Automotive Engineers, Chicago, Ill.

DIVERSITY OF OPINION ON AIRCRAFT FUELS INCREASES MARKETING COSTS

By C. M. Larson
Supervising Engineer, Sinclair Refining Co.*

The question of suitable fuel for private and commercial aircraft purposes has been a subject of wide discussion during recent months throughout the United States. The reason for this is a desire on the part of everyone interested to do away with the confusion that has been brought about by the rapid growth of the aircraft industry and the necessity of fitting fuels to the various makes of aircraft engines rather than stop at building engines which will operate satisfactorily on standardized fuels that are available at present throughout this country.

From the fuel producer's standpoint, development of an improved normal fuel with a proportionate and yet reasonable increase in cost is necessary so that the engine manufacturers will be in a position to offer an improved product to the operator. Just how far and how fast this improvement in the federal specification board's domestic aviation gasoline grade B (Department of Commerce Technical Paper 323B) can be made depends on the economic distribution and availability of the product as well as the standardization of the aircraft engine manufacturer's requirements.

Analyzing aviation consumption figures for 1929, it is found that, for other than Army and Navy requirements, the gallonage dispensed was as follows:

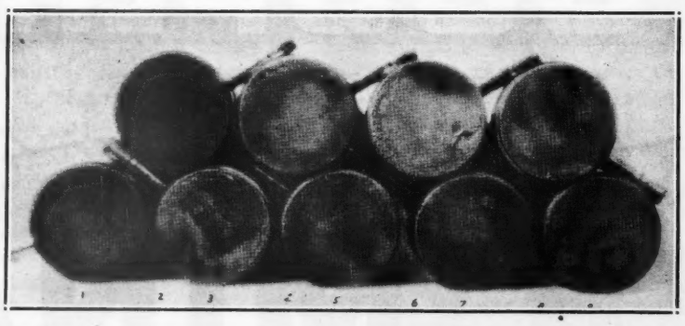
	Gallons
Private flying	*3,774,000
Aerial service	*15,760,000
Scheduled transport	3,059,000
Total	22,593,000

*These 19,534,000 gallons of aviation gasoline were distributed by 20 major companies, approximately five of which have national distribution.

Scheduled transport companies, in most instances, have standardized on one type of gasoline, stipulating definite quantities and places of delivery, much the same as the Army and Navy do in contracting for their requirements. Now, if the 19,534,000 gallons used by the 6,114 airplanes operating under active licenses and comprising the private fly-

(Continued on Page 111)

*Eighteenth National Aeronautical meeting, Society of Automotive Engineers, Chicago, Ill.



Pistons of nine-cylinder Wright Model J-4 engine as removed from engine after 70-hour operation using domestic gasoline containing 48 Mg. of gum.

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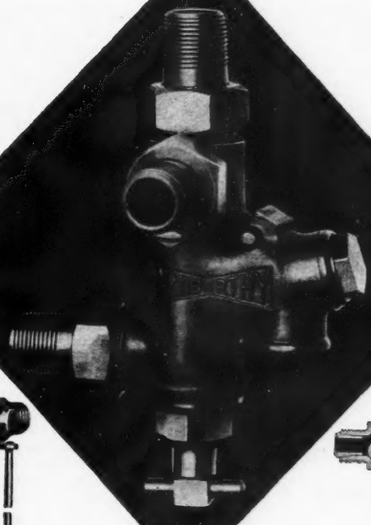
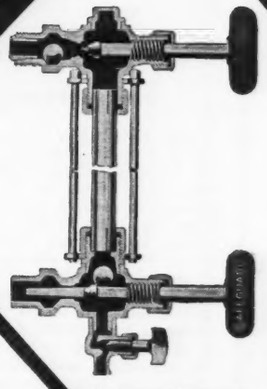


Navy Type Liquid Level Gauge

Screw Plunger Grease Cup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PRORATION ORDER IN MT. PLEASANT ANNOUNCED BY PURE OIL CO.

MUSKEGON, Mich., Sept. 9.—Proration of pipe line runs from producing oil wells in the Mount Pleasant area of central Michigan on a basis of 60 per cent in the settled field and 25 per cent in newly developing areas was placed in effect September 4 by the Pure Oil Pipe Line Co.

Announcement of the proration was made by M. I. Deuel, general superintendent of Michigan operations of the Pure Oil Co., who declared "proration was a forced issue with us, resulting from general overproduction of oil that has depressed the present crude market." He explained that outlets for crude from the Pure are in a slump.

According to the plan 60 per cent of the potential daily production of wells in Chippewa Township, Isabella County, and Greendale Township, Midland County, the settled field, and 25 per cent of the output of new wells in Denver and Vernon Townships, near the village of Leaton, will be accepted by the pipe line. The company now has more than 500,000 bbls. of crude oil in storage in tanks in the field and at the new Bay City water terminal which have a maximum capacity of 823,000 bbls.

While the potential production of the Mount Pleasant Field is about 7,000 bbls. daily the market demand is less than 2,000 bbls. At this rate storage facilities soon would be loaded and might make complete curtailment necessary. Rather than shut off the field and wells entirely, however, the Pure Oil Co. has announced the present proration plan. The company's recent recommendation for a minimum of new drilling was reiterated.

Eventual relief for the situation is seen in the announcement that the Pure Oil Co. will join with the Hickok Oil Corp., of Toledo, Ohio, to erect a $5,000,000 refinery on the Maumee River at Toledo. The first unit of the plant will have two stills and a daily capacity of 6,000 bbls. of crude oil. Marine facilities for handling crude oil coming in and refined products going out of the plant by boat also will be developed providing a new outlet for Michigan production in the Mount Pleasant area and elsewhere. Lake tankers are scheduled to take three loads of 20,000 bbls. of crude oil each to the Imperial refinery at Sarnia, Ontario during September. This is now the principal outlet for Mount Pleasant crude oil.

Two new wells which are expected to make more than 3,000 bbls. a day initial were completed over the week end in the older proved field. They are the G-Lee-P Oil Development Co.'s No. 4 Grubb and the Pure Oil Co.'s No. 1 Scott. The former is in Section 2, Chippewa Township, Isabella County, and the latter in Section 8, Greendale Township, Midland County. Both are in the Dundee pay sands and increase the total number of producers in the Mount Pleasant area to 170.

OIL MAN'S CALENDAR

SEPTEMBER

8-12—Cincinnati, Ohio, eightieth meeting, American Chemical Society, Hotel Gibson.

17—Columbus, Ohio, Ohio Petroleum Marketers Association, Deshler-Wallick Hotel.

17-19—Atlantic City, N. J., National Petroleum Association, Hotel Traymore.

29-Oct. 4—Pittsburgh, Pa., Petroleum Section, National Safety Council.

OCTOBER

2—Tulsa, Okla., General Committees, A.P.I. Division of Production and Marketing.

3—Tulsa, Okla., General Committee, A.P.I. Division of Refining.

3—Tulsa, Okla., Board of Directors, American Petroleum Institute, Mayo Hotel.

4-11—Tulsa, Okla., International Petroleum Exposition and Congress.

6-8—Tulsa, Okla., National Petroleum meeting, American Society of Mechanical Engineers.

6-11—Washington, D. C., sixth International Road Congress.

6-11—Washington, D. C., Exhibition, American Roadbuilders Association.

13-17—Atlantic City, N. J., American Gas Association, Auditorium.

14-16—Kansas City, Mo., Convention, Big Four State Jobbers.

16-25—London, England, Oylmpia Motor Show.

20-22—St. Louis, Mo., Petroleum Refiners division, National Association of Credit Men.

22-24—Pittsburgh, Pa., transportation meeting, Society of Automotive Engineers.

29-31—Lawrenceville, Kans., celebration twenty-fifth anniversary, Lawrence County Oil Industry.

NOVEMBER

2-5—St. Louis, Mo., Marketing Congress, Independent Oil Men of America, Statler Hotel.

6-11—Berlin, Germany, International Automobile Show.

10-13—Chicago, eleventh annual meeting, American Petroleum Institute, Stevens Hotel.

DECEMBER

1-5—Memphis, Tenn., ninth annual Asphalt Paving Conference, the Asphalt Institute and Association of Asphalt Paving Technologists.

JANUARY

3-10—New York, National Automobile Show.

24-31—Chicago, National Automobile Show.

Late Fields

CALIFORNIA

LOS ANGELES, Calif., Sept. 9.—The report early in June that the Shell Oil Co. had cored oil sand in its Porter Day well in the Weed Patch area of Kern County, is recalled this week when the Shell opened up a new oil field in that district as this well subsequently deepened to 5,370 feet was brought in under a natural flow doing 150 bbls. of 25 gravity oil daily. This new field is approximately 10 miles southwest of Bakersfield and while the discovery well is cutting 35 per cent subsequent drilling should be more successful as the present test looks like an edge well.

LOUISIANA-ARKANSAS

SHREVEPORT,, La., Sept. 9.—Abandoned as a dry hole in October, 1926, by Manie Drilling Co., Wallace Riggs and Cunningham's No. 1 Cunningham, a Shreveport townsite well in the NE NW Section 15-17-14, blew in while washing to bottom with an estimated 20,000,000 feet of gas and a spray of water, total depth 1,988 feet. It blew for half an hour and was shut in for gauge Tuesday. Location is a mile south of a well drilled for water supply on the Louisiana State Fair grounds by Abe Josey in 1912 or 1913, but which blew in as a huge gasser and wrecked one of the exhibit buildings with 1,200 feet of drill stem, and this well is thought to be producing from the same sand, probably Nacatoch.

A. C. Glassell's No. 1 Pittsfield, Section 41-8-10, Concordia Parish, drilled out cement and made a small puff of gas at 1,453 feet. Two joints of drill stem twisted off and the well was closed in after a few hours of unsuccessful fishing. Opened to resume fishing, it blew in with something nearer the original show of 10,000,000 feet of gas for half an hour. Closed again for a few minutes, it went dead five minutes after being opened and is thought to have bridged as it had never cleaned itself. Fishing for the two joints of pipe and tools has been resumed.

High Spots in Field News

MISSISSIPPI

Three failures reported.

NEW MEXICO

Three locations made in Hobbs Pool.

EAST CENTRAL TEXAS

Good oil showing in Rusk County.

GULF COAST

New deeper sand at Refugio. Deepest well at Esperson blows out.

KANSAS

Operators keeping production at steady level. Pool extensions reported.

NORTH LOUISIANA

Salt water showing in Bellevue well. Carterville well blowing from 75-foot crater.

CALIFORNIA

Kettleman Hills area extended 4 miles west. Shell opens new field in Kern County.

ROCKY MOUNTAIN AREA

Show of gas in Douglas County, Colorado. New black oil pool in Park County, Wyoming.

OKLAHOMA

Oklahoma City Pool completes 27 wells; present locations may be drilled up in 90 days. Test north of field made 10 bbls. Deeper pay found in Caddo County.

SOUTHWEST TEXAS

Simms Oil Co.'s No. 1 Holzmark, Bee County wildcat, spraying gasoline in center of blocks of 1,300 acres, 12 miles northeast from Pettus. More than dozen locations at Darst Creek. Possible new shallow field at Thrall.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Sept. 9.—Simms Oil Co.'s No. 1 Holzmark in Bee County, reported a big gasser earlier, is now spraying gasoline around the connections. With valve slightly cracked it has pressure of 1,450 pounds. Eleven hundred feet was bailed off the top when it blew in and threatened to get loose. It is in the center of a block of 1,300 acres belonging to Simms and the company in addition has about 700 acres more, making the total block 2,000 acres. The last core taken before setting casing showed considerable oil. The test is in Pure wildcat acreage with the Pettus Field 12 miles northeast and Nichols' No. 4 Hicks, a lone gas well, 6 miles northeast. It is believed the Simms' test if allowed to run will turn to oil.

KANSAS

Syndicate Oil & Gas Co. and Six Forty Oil Co.'s No. 1 Braley Airport, SE cor. SW NW, Section 6-28-2, Sedgwick County, south of the production in the Eastborough Pool, had a showing of oil at 2,928 feet. The showing of oil was found while bailing the hole. Some express the opinion if commercial production is found in the test it may open a new producing area. The area is believed to be entirely separate from the Eastborough Pool, 1½ miles north of the well. Water was found in the tests in the Eastborough Pool at this depth and oil production is found at 2,960 feet in the Eastborough wells. Drilling will be resumed and a test of the production will be made.

The thirteenth producing well was completed in the Eastborough Pool by Fisher & Lauck's No. 5 Trustee, SW cor. SE SE, Section 19-27-2, Sedgwick County. It was the third Simpson sand well in the area and made 25 bbls. an hour from sand at 3,237-41 feet. It is the north offset to the Derby Oil Co.'s No. 1 Rimel, which made 1,501 bbls. on the gauge of September 8. The chat horizon has been bradenheaded and the well is making around 50 bbls. a day from this formation. The Trustee lease now has a potential production of approximately 2,100 bbls. a day from five producing wells.

The Ritz Pool in McPherson County was extended three-quarters of a mile by the Lario Oil & Gas Co. and others' No. 1 Winn, NW cor. SW NW, Section 7-20-1w. It had the chat at 2,935-78 feet, where 2,500,000 feet of gas was found and 12 bbls. of oil an hour. It is estimated to be a 250-bbl. well, and is shut down until tankage is erected.

In the northwestern part of the State, Boydson & Seeley's No. 1 Silvers, C NE, Section 21-8-19w, Rooks County wildcat, had the Oswald at 3,200-05 feet, where it is making 2 bbls. per hour.

Phillips Petroleum Co. and Tom Palmer's No. 1 Harsch, NE cor. SE, Section 14-26-5w, Reno County wildcat, found a showing of oil in the Viola lime at 4,040-41 feet, and water at 4,046-53 feet. Drilling has been resumed.

OKLAHOMA

Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor., Section 32-14-3w, Oklahoma County wildcat, was swabbed and made 10 bbls. of oil in 12 hours from

(Continued on Page 154)

MAGNETIC STORM

The Tuscon, Ariz., observators of the United States Coast & Geodetic Survey report that a mild magnetic storm began at 10 p.m. central standard time on the third and ended at midnight of the fourth. Their telegrams are as follows:

"Storm began third, four. Mild."

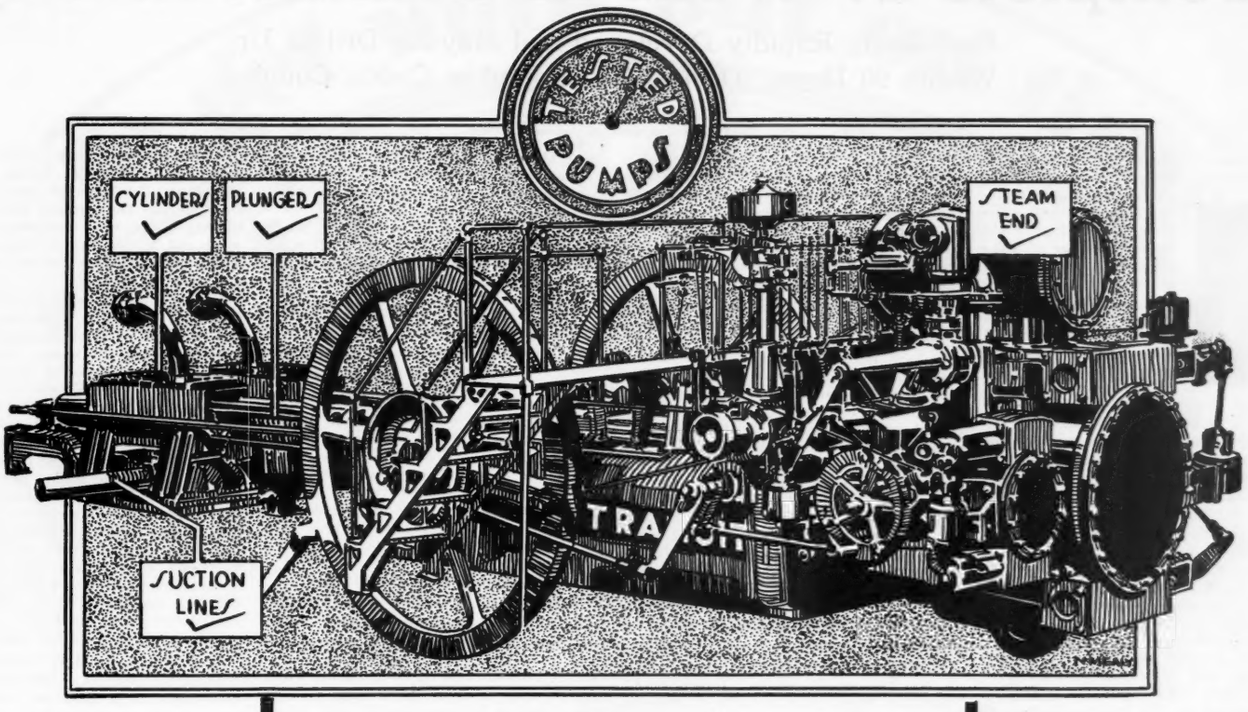
"Storm ended fourth, six."

SCORE CARD ON OIL PRODUCTION

Below is shown allotted average daily production in the United States, April to December, inclusive, suggested by the Committee on Economics of the Federal Oil Conservation Board, and the actual daily average production during the week ending September 6:

	Allotted (bbls.)	Actual (bbls.)	Over (bbls.)	Under (bbls.)
California	610,000	611,500	1,500	.....
Oklahoma	655,000	564,545	.....	90,455
Texas	750,000	803,714	53,714	.....
Other fields	480,000	457,953	.....	22,047
Total	2,495,000	2,437,712	55,214	112,502

Net underproduction 57,288 bbls. per day.



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Complete 27 Wells in Oklahoma City

Pool Being Rapidly Developed and May Be Drilled Up Within 90 Days. Deeper Pay Found in Caddo County

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Oklahoma's production was held close to requirements the past week, with daily average of approximately 564,200 bbls. The Oklahoma City Field had an average of 105,200 bbls. for the same seven days. The highest daily average output for the year from the Oklahoma City Pool was 126,625 bbls. for the last week in May.

The completion of 27 producing wells in the Oklahoma City Field with an estimated potential of 125,000 bbls. a day during the week ending September 6 points to the rapidity with which that field is being developed. It looks at this time as if most of the important development work in the field will be completed in about 90 days.

Mid-Kansas Oil & Gas Co. and Ramsey Petroleum Co.'s No. 1 Messer, SW cor., Section 32-14-3w, a wildcat west of Edmond, in Oklahoma County, has been bailed down and was showing from 4,000,000 to 6,000,000 feet of gas and water from a total depth of 6,709 feet. Later the gas increased to 20,000,000 feet and then subsided to 2,000,000 feet on September 6. The crew was cleaning out about 100 feet off bottom with a back pressure of 300 pounds. The well was shut in for two hours and the back pressure increased to 800 pounds. A showing of oil was found in the core of the last 6 feet of hole, but as this was shut off with mud in the bottom of the hole no oil was showing. The test is located on a block of 4,000 acres and is owned jointly. It was cleaned out on bottom and had a showing of oil when bailed to the total depth of the hole. Drilling deeper started after it had been bailed to the bottom of the hole. It is believed the gas is coming from the Simpson sand just above the Wilcox sand.

Defined on the North?

The Oklahoma City Field was believed to have been defined on the northeast when water was found in the Indian Territory Illuminating Oil Co.'s No. 8 E. Theimer, NW cor. SE, Section 1-11-3w, which was bailed to almost the bottom and was showing a bailer of salt water an hour, at a total depth of 6,757 feet. The test had a few showings of oil while drilling and only a trace of oil was showing in the test while bailing. Some express the opinion the test is located east of the fault line, located farther west than had been predicted.

The southeast part of the Oklahoma City Field was given added importance when the Prairie Oil & Gas Co., Phillips Petroleum Co. and Tom Slick Oil Co.'s No. 6 Sigmon, NE cor. SW SW, Section 32-11-2w, the most southeasterly well in the pool, was bailed in and made 330 bbls. the first 30 minutes. The gas was estimated at 20,000,000 feet from the Simpson sand at a total depth of 6,680 feet. It made 2,070 bbls. the first four hours. The same operators' second well, No. 2 Sigmon, SW cor. NW SW, Section 32-11-2w, was completed and flowed 645 bbls. the first hour; 665 bbls. the second hour; and 2,680 bbls. the first four hours.

A survey of the various companies operating in the Oklahoma City Field reveals the fact that no crude oil is being sold under the market price, and the majority of operators say that no such sales will be made in the near future.

The survey was made by two major oil companies working independently. One of the companies making the survey had no holdings in the field but made the check as a prospective buyer of crude oil in the interest of maintaining stable prices in all Oklahoma fields. Intensive efforts on the part of operators in the field during the last year has resulted in keeping the output of the Oklahoma City Field to approximately the pipe line outlet. However, it has resulted in a huge amount of crude oil being left in field storage of the producing companies.

The pipe line companies are refusing to negotiate for cut-price oil. Some producers have tried to throw their oil on the market in such a manner as to get under the proration order.

Phillips Petroleum Co. has refused to purchase natural gas for its gasoline plants from wells which are being overproduced or producing contrary to the proration plan. Another situation in the Oklahoma City Field is created by an operator who is trying to have wells classed as gas wells, which the owners consider are making too much oil to be classed as gas wells. There are a number of such wells in the pool, but most of the owners are running this high gravity oil or gasoline into the pipe lines and selling it as 44 gravity oil.

Overproduction Hearing Postponed

The hearing of charges against the 61 operators that are said to have overproduced was postponed from Monday, September 8, to Tuesday, September 23, by the state Corporation Commission. The postponement was caused by the opening of the C. C. Julian Oil & Royalty Co.'s case before the state Supreme Court.

The 61 operators are charged with the violation of the State's proration order affecting the production in the flush fields. Many of these violations are charged in the Oklahoma City Field and the Greater Seminole area.

A second committee was named to study the difference in the classification of oil and gas wells, by the Oklahoma City operators at a conference last Friday. The Oklahoma Corporation Commission has been unable to reach a decision on the classification of certain wells in the Oklahoma City Field since the opinion differs on which are oil wells and which are gas wells. In making the survey the engineers are tubing several wells, while other methods were also used to test the production.

The C. C. Julian Oil & Royalty Co. has started operations at its new refinery located northeast of the Oklahoma City Field in Section 35-12-2w, and is running about 1,500 bbls. a day. Crude oil is being run from the company leases in Section 14-11-3w. The refinery was built by Peacock & Peveto.

The Marco Oil & Refining Co.'s No. 1 Holder in Section 2-11-3w is flowing 2,000 bbls. a day. The oil is being delivered to the Capitol refinery near the Oklahoma City Field.

The oil from the Mid-Texas Co.'s No. 1 Community, in Section 1-11-3w, is being run through the Cunnard Pipe Line Co.'s 4-inch line to the Electol refinery, near the Oklahoma City Field.

Champlin Oil & Refining Co. is rushing work on its 6-inch line from Logan County. The pipe line connects with the company's refinery at Enid, Okla. The Champlin company has two producing wells in the Oklahoma City Pool, and it is believed it may also become a purchaser of crude oil should its own production become insufficient to meet the needs of the refinery.

New Work in Carr City Area

Since the Gypsy Oil Co.'s No. 3 Coker, SE cor. NW SW, Section 3-8-5, north extension to the Carr City Pool, in Seminole County, was completed August 1, for 1,720 bbls. the first 20 hours from the Wilcox sand at 4,192-4,203 feet, it has resulted in considerable new development work in the vicinity. The east offset was completed by the Carter Oil Co. and made 1,365 bbls. in 24 hours. The same company extended the production a half mile east at No. 3 H. Coker, NE cor. SW SE, Section 2-8-5. It made 580 bbls. the first 24 hours from the Wilcox sand at 4,244-53 feet. Six tests were drilling in Section 2-8-5, and two were drilling in Section 3-8-5. It is one of the most active spots in the Greater Seminole area.

Amerada Petroleum Corp.'s No. 1 Tiger, NW cor. NE SW, Section 3-8-5, had better than 2,000 feet of oil in the hole from the Simpson sand at 4,068-4,102 feet, and was still drilling.

The Sands Petroleum Co. has purchased the SE SE, Section 30-9-6, south of the discovery well drilled by the Amerada Petroleum Corp., in Section 29-9-6, and plan to start a test. It marks the first large trade in the area surrounding the new wildcat well which is producing around 3,500 bbls. a day, from what may be a new producing zone.

Deeper Pay in Caddo County

In the southern part of the State proration and the shortage of water have delayed operations. Two wells were completed in the Tatums area in Carter County, and the Cement Pool in Caddo County had a new producer in the deep sand and a new pay horizon at greater depths which has attracted considerable attention to the area.

Wirt Franklin Petroleum Corp.'s No. 2 Spigner, NW cor., Section 24-1s-3w, Tatums Pool, Carter County, made 353 bbls. the first 12 hours. Production is coming from a series of sands at 2,144-2,285 feet. Trevlyn Oil Co.'s No. 3 Mitchell, NE cor. SW SE, Section 24-1s-3w, swabbed 1,397 bbls. of oil during its first 24 hours' gauge, from sand at 2,212-2,365 feet. Both of these wells will be shut in for the 16-day period required by the Corporation Commission and after that they will be allowed to produce 100 bbls. a day. Wirt Franklin Petroleum Corp. has staked a new location on the southeast edge of the extension to the Tatums Field for No. 4 Mitchell, NE cor. SE SE, Section 24-1s-3w. Several drilling tests in the field shut down after cementing on top of the sand.

The Cement Field in Caddo County is holding the interest of operators with the completion of a 1,000-bbl. well and the opening of a producing horizon at greater depths. Magnolia Petroleum Co.'s No. 8 Caddo-Rowe, SE cor. SW NE, Section 36-6-10w, is flowing about 1,000 bbls. a day from a series of sands at 3,163-3,360 feet. The well was first completed for about 50 bbls. a day at a total depth of 3,328 feet and was later drilled to 3,360 feet. Mid-Kansas Oil & Gas Co.'s No. 6 B. Lackey, NE cor. NW NW, Section 11-5-9w, on the east side of the Cement Pool, is cementing casing at 4,857 feet, on top of a broken sand showing oil and gas, after being drilled to a total depth of 4,990 feet. The other deep sand at 4,000 feet which was found to be productive in other wells was missed in this test. The operators believe the test will probably be completed as a gas well. Same operators' No. 2 M. Surbeck, SE cor. SW SW, Section 2-5-9w, was bailed in and started flowing from sand at 3,923-70 feet. No gauge was available.

Important Test in Kingfisher

Prairie Oil & Gas Co. and Tom Slick Oil Co.'s No. 1 Wright, NW cor. SW, Section 23-15-5w, Kingfisher County, a wildcat test, is logging higher than the producing wells in the Crescent Pool, in Logan County. The area is being watched by operators and considerable acreage and royalty is changing hands. The test is being drilled on a block of 6,000 acres which had been core drilled. On the edge of the block several short time leases may cause another test to be drilled before the end of the year. The Pawhuska lime is expected to be approximately 3,850 feet and at that time the geologists will be able to check the status of the test.

Notwithstanding business conditions in the industry there has been considerable leasing activity in wildcat and semiwildcat areas. An intensive lease play has been in progress in the western part of the State where the future development is expected to take place. Coal County in the east central part of the State is being leased in large blocks. A number of wildcat tests have been drilled in the county all of which have been water wells. Leases have been active in Grady and Caddo Counties.

Continental Oil Co. is starting a new test in Noble County. Material is moving in for No. 1 Lavington, C SE SE, Section 32-21-1w, about 2 miles southwest of Perry.

The Amerada Petroleum Corp. and

(Continued on Page 72)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Rigging up standard tools 4,660 ft.; cleaning out.

BECKHAM COUNTY

Ray Johnson and J. R. Cuniff's No. 1 Brower, C NW Sec. 29-10-22w	Shut down 3,784 ft.
Producers Exploration Co.'s No. 1 Sidell, SE cor. SW SW Sec. 17-9-22w	Shut down 2,402 ft.
Carson et al's No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Drlg. 1,606 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	Shut down 3,730 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-11w	Drlg. 615 ft.
Simms Pet. Co.'s No. 1 Cobsa, SW NW Sec. 24-6-11w	Rig.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w	Abandoned 3,394 ft.

CHEROKEE COUNTY

Weaver & Proctor's No. 1 Benge, NE SE Sec. 8-14-21	Shut down 510 ft.

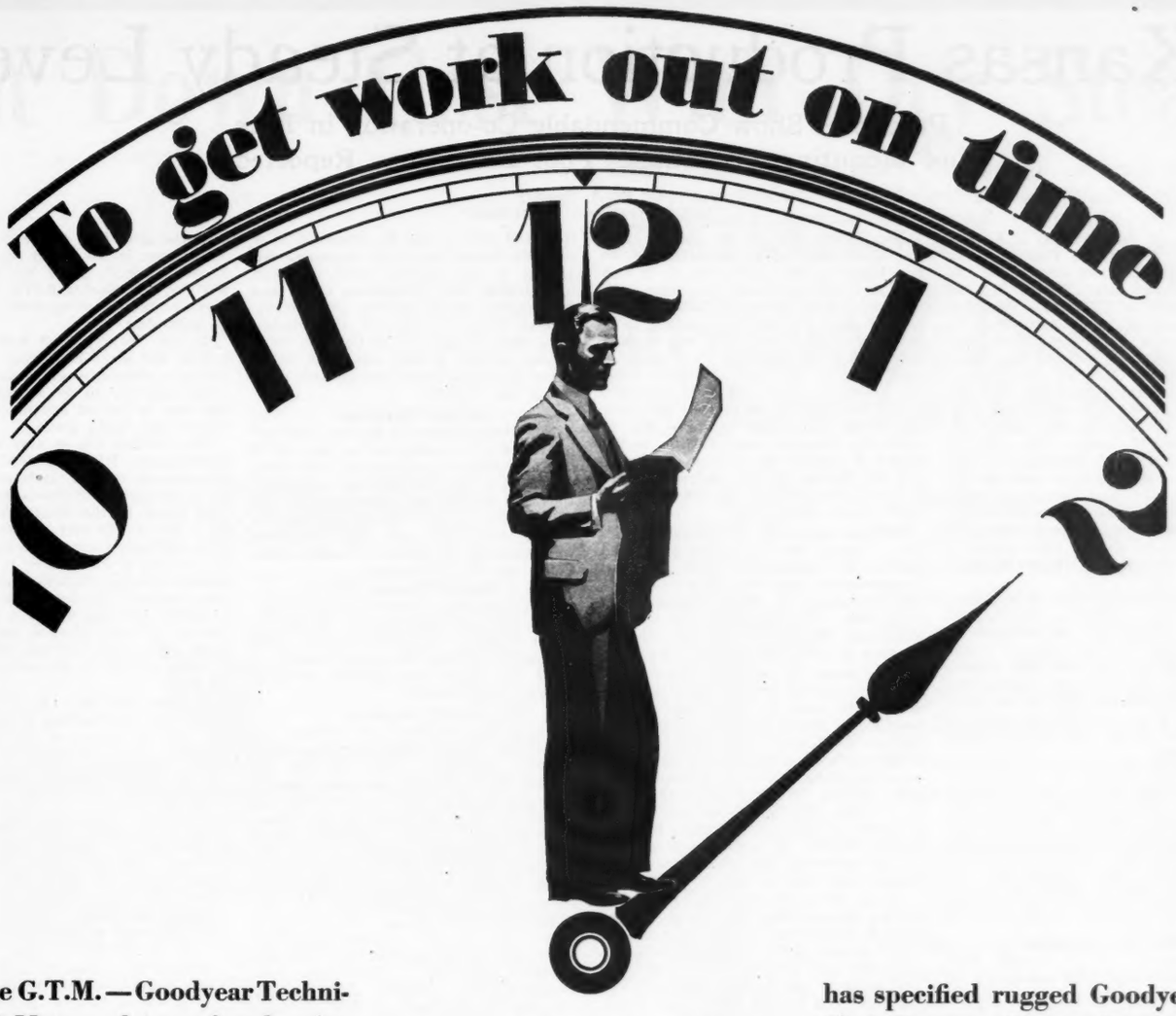
CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Shut down 6,518 ft.
Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w	Shut down 3,130 ft.

COAL COUNTY

A. M. Van Orden's No. 1 Jamison, SE SW Sec. 31-1-9	Shut down 1,668 ft.
Blackwell O. & G. Co.'s No. 1 L. Jackson, NW cor. Sec. 26-3-9	Drlg. 3,800 ft.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Shut down 3,020 ft.

(Continued on Page 168)



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Kansas Production at Steady Level

Producers Show Commendable Co-operation in Face of Mounting Potentials. Pool Extensions Reported

By W. A. Spinney
Staff Correspondent, Kansas Fields

Operators are co-operating in Kansas and holding the State's production at steady levels. The daily average for the week ending September 6 was 113,300 bbls., a decline of 2,000 bbls. per day from the previous week's record.

A wildcat well in Stafford County was showing oil from the Oswald lime. Midwest Exploration Co.'s No. 36 Richardson, SE cor., Section 36-22-12w, had the pay from 3,541-44 feet where oil rose 900 feet in the hole in two hours and 2,500 feet in 16 hours. The hole is caving and it may be necessary to land a liner before a production test can be made. It is the first commercial production found in Stafford County which is located southwest of Rice County, and is believed to be on the same trend of folding as the Schurr Pool in Rice County.

The Graham Oil Co.'s No. 1 Dennison, NE cor., Section 25-27-1, may extend production a half mile to the west in the Eastborough Pool in Sedgwick County. It is due to reach the chat horizon in a few days and has been logging the same as the producing wells in the pool. The Kansas City lime was found at 2,467-2,680 feet where the 8-inch casing will be landed.

Southwestern Kansas will get another wildcat test, it was announced during the week by Hinkle and Madison in the C NW, Section 17-35-42w, Morton County, near the town of Elkhart. It may be drilled to a total depth of 6,000 feet. These operators own a large block of acreage in the vicinity which was tested with a magnetometer before the location was made.

Taking New Potentials

New potentials in the Voshell Pool in McPherson County for the month of September were taken the first part of the month under the supervision of State Umpire T. C. Johnson. Early indications were that it would reach 60,000 bbls. a day and some express the opinion it might exceed that figure, which would be greater than the previous month. The pool is being curtailed to 10,000 bbls. a day, the pipe line outlet. New producing wells have been added to the pool and have increased its potential.

New potentials were being taken in the Ritz Pool in McPherson County and it is expected to reach between 9,000 and 10,000 bbls. a day.

Test in Kingman County

Aladdin Petroleum Corp. is starting a wildcat test on core drilled acreage in Kingman County. The company announced during the week a new location for No. 1 Schrag, SW cor. NW, Section 16-27-5w. The location is on a block of several thousand acres and was core drilled by the Aladdin company and others.

Mid-Kansas Oil & Gas Co. has taken over the operation of the 66 producing wells in Greenwood and Lyons Counties drilled and operated by the Transcontinental Oil Co. in connection with the recent merger of those concerns, according to the announcement from the Kansas headquarters. Mid-Kansas Oil & Gas Co. now controls approximately 300,000 acres in leases in different parts of Kansas.

Eastborough Operations

The Derby Oil Co.'s No. 1 Rimel, NW cor. NE NE, Section 30-27-2, extended production one location east in the deep sand in the new Eastborough Pool, in Sedgwick County. It swabbed 1,565 bbls. the first 24 hours, production coming from the Simpson sand at 3,333-36 feet. Oil stood 1,000 feet in the hole after the swabbing test. It is the second deep sand producer in the pool and some express the opinion it may develop into a large producing area similar to the Valley Center Pool in the same county. The sand was found approximately 10 feet higher in the Derby Oil Co.'s well than in the Simpson sand discovery well. The proven area of the pool is now slightly less than 1½ miles in length in a north and south direction and a half mile wide. Besides the two Simpson sand wells in the pool, 10 other wells are producing from the chat at 2,950 feet. Twenty-three other tests are drilling in the area. The next test due to reach the Simpson sand horizon is the Fisher & Lauck's No. 4 trustee, SE cor. SW SE, Section 19-27-2, Sedgwick County, the north offset to the discovery well in the deep sand.

Without deepening, the Derby Oil Co.'s No. 1 Rimel, the second Simpson sand well in the Eastborough Pool, increased its production more than 350 bbls. Monday, September 1. The production was 1,565 bbls. On Tuesday it was 1,601 bbls. and Wednesday showed the big increase to 1,832 bbls. in 24 hours.

As a result of finding the deep sand productive in the Derby Oil Co.'s No. 1 Rimel, the same company has made a location for No. 2 Rimel, in the NE cor., Section 30-27-2. This location was followed by three others, all offsets. Magnolia Petroleum Co.'s No. 1 Brady, NW cor., Section 29-27-2; Dixie Oil Co.'s No. 1 Cobb, SW cor., Section 20-7-2, and Fisher & Lauck's No. 8 trustee, SE cor., Section 19-27-2. It brings the total number of locations and operations in the Eastborough Pool to 40.

In an effort to extend the production in the Patton Pool in Cowley County, Deal & Foster have made a location for No. 1 Brooks, SW cor., Section 2-31-6, a half mile east of production. The other new wells in the Patton Pool are yielding from 100 to 150 bbls. of oil a day, and are being produced only during the daylight, under the proration agreement effective in that area.

Big Gasser in Reno County

Gas was found in a wildcat test in northeastern Reno County. Gas estimated at 16,000,000 feet was found by Turner & Study, Empire Oil & Refining Co.'s No. 1 Haury, NE cor. SW, Section 1-23-4w, in a break in the Mississippi lime at 3,320-30 feet. The test is believed to be located on the same line of folding as the Voshell Pool, in McPherson County about 9 miles southwest. Drilling was suspended pending the arrival of a control head and it may be completed as a gas well. Several major oil companies own acreage in the vicinity, which has been core drilled. Shell Petroleum Corp. and Independent Oil & Gas Co. own offsets, Sinclair Oil & Gas Co., W. C. McBride, Inc., and Wilcox Oil & Gas Co. have acreage within a half mile, and Slick, Pryor & Lockhart own considerable acreage in the vicinity.

19 New Operations

New developments in Kansas were going ahead at a steady rate, a total of 19 new operations being reported in the State compared to 15 the previous week. Stevens and Greenwood Counties were tied with five each for the lead. Sedgwick County had four and single locations were reported in Marion, Franklin, Elk, Coffey and Butler Counties.

Kansas' Deepest Well

Watchorn Oil & Gas Co.'s No. 2 Morrison, NW cor. NE, Section 20-32-21w, Clark County, was drilling below 6,680 feet after landing the 4-inch casing at 6,647 feet. It is the deepest test ever drilled in the State.

Schurr Extended

The Texas Company's No. 1 West, SE cor. SW NE, Section 21-20-10w, Rice County, extended production in the Schurr Pool a quarter of a mile west. It has been shut in after making 400 bbls. of oil the first five and one-half hours, from Silicious lime at 3,323-51 feet. It is estimated to be a 1,700-bbl. well but additional production tests will not be made until a market is found for the production. Three other tests are shut down near the Silicious lime pay in the pool. They are the Vickers Petroleum Co.'s No. 2 Binger, NE cor. NW SE, Section 21-20-10w, at 3,230 feet; same company's No. 3 Binger, NW cor. NE SE, Section 21-20-10w, at 3,280 feet, and the Independent Oil & Gas Co.'s No. 2 Mezger, SE cor. SW NE, Section 21-20-10w, at 3,280 feet.

Two dry holes were completed in Rice County. Miller & Brown and others' No. 1 Schwartz, SE cor. NW SW, Section 14-20-10w, was abandoned at 3,433 feet, and McPherson Oil & Gas Co.'s No. 1 Jennings, NE cor. SW NW, Section 29-18-6w, was abandoned at 3,880 feet.

Butler County has a failure in Sullivan & Melrose's No. 1 Newcomb, NW cor. SE, Section 6-27-4. The test had a small show of oil at 2,940-42 feet, and considerable water on a swabbing test. It is the east offset to the discovery well in the area drilled by the same company. E. W. Marland, Inc.'s No. 1 Anderson, SW cor. NE, Section 6-27-4, one location north of the discovery well, was drilling at 2,800 feet.

In Elk County, Croft & Frazier's No. 1 Key, SE cor. NE, Section 26-31-10, is testing a showing of oil in the Peru sand, which appears to be a small showing. The test is located midway between the Oliver and Webb Pools.

The Prairie Oil & Gas Co.'s No. 1 Cunningham, NW cor., Section 17-32-11, Chautauqua County, is being abandoned at 2,159 feet in Silicious lime. Water was found in the British-American Oil Co.'s No. 1 McCarty, in Section 31-25-17w, Edwards County, the discovery well in the Lewis Pool, after it was drilled deeper into the Silicious lime. The well was deepened 28 feet to a total depth of 4,608 feet and found a hole full of water. It was plugged back to 4,593 feet. Before the well was drilled deeper it made 50 bbls. of oil and 6,000,000 feet of gas.

Barbara Oil Co. has added another well to its gas holdings in Barber County. No. 2 Angell, C SE SE, Section 23-33-13w, was estimated to have an open flow of 18,000,000 feet of gas. The gas was found in sand at a total depth of 4,600 feet.

In the southern part of Sumner County the Gypsy Oil Co.'s No. 1 Sturm, Section 23-34-2w, had a hole full of water in the Wilcox sand at 4,521-23 feet, and may be abandoned. It is southwest of the Douglass well drilled by the same company which had an initial production of 100 bbls. a day.

Prairie Oil & Gas Co. and others completed another well in the Patterson Pool in Greenwood County, estimated at 250 bbls. The well is No. 7 Newhouse, C NE NE, Section 1-24-11. It had Bartlesville sand at 1,746-1,808 feet, which was shot with 180 quarts. The Harwood Oil Co. is seeking to extend the production in the Wiggins Pool and has resumed operations at No. 1 Loy, SW cor. NE, Section 20-25-10, which has been shut down at 1,400 feet. Operations in the area have slowed down during the last six weeks. Phillips Petroleum Co. and Aladdin Petroleum Corp. have been working jointly and have added some excellent producers.

Butler County

Empire Oil & Refining Co.'s No. 101 Koogler, SW cor. SE NE, Section 20-26-5, has been completed for 55 bbls. in sand 2,497-2,546 feet. No. 9-A Brandenberger, SE cor. NE NE, Section 22-27-5, made 175 bbls. in lime 2,746-73 feet. Aladdin Petroleum Co. and Phillips Petroleum Co.'s No. 1 Seward, SW cor. SE NE, Section 14-27-7, made 30 bbls. in sand 2,641-69 feet.

Chase County

Empire Oil & Refining Co., Skelly Oil Co. and Phillips Petroleum Co.'s No. 1 Crosby, SE cor. SE, Section 23-22-9, is dry and abandoned at 2,603 feet.

Coffey County

Hegburg and others' No. 1 Krost, SE cor. SW SE, Section 30-22-14, is spudding.

Elk County

Aladdin Petroleum Co.'s No. 1 Donnell, NE cor. SE SW, Section 26-29-10, is spudding.

Ellis County

Boucher and others' No. 1 Wann is a location, C SE SW, Section 13-15-20w.

Greenwood County

Simmons and others' No. 4 Greenwood, NW cor. SE SW, Section 19-22-11, is a location. Mid-Continent Oil Co.'s No. 6 Hout, CWL SE SW, Section 11-24-12, is

(Continued on Page 138)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Company, farm and location—	Remarks:
Barbara Oil Co.'s No. 1 Hamblin, SW NW Sec. 24-33-13w.	Fishing 4,487-4,508 ft.; 20,000,000 ft. gas; swabbing casing.
Phillips Pet. Co.'s No. 1 Powell, SE cor. SE Sec. 11-32-10w	Drlg. 4,775 ft.

BARTON COUNTY

McCool et al's No. 1 Tsern, SW SE NE Sec. 12-20-11w.	Spudding.
Slick and Prairie's No. 1 Rude, SW cor. Sec. 11-16-13w.	Drlg. 3,376-78 ft.; water.

BUTLER COUNTY

National Ref. Co.'s No. 1 Settergren, NW cor. Sec. 32-26-4.	Rig.
McCulloch and Empire's No. 1 Lilley, SW NW NW Sec. 23-23-5	Drlg. 350 ft.
Farrell et al's No. 1 Sutton, NW cor. Sec. 18-28-7	Drlg. 830 ft.
Gypsy Oil Co.'s No. 1 Osborne, NW SE Sec. 22-26-3	Drlg. 2,500 ft.
Joe Liggett's No. 1 Guanther, C SE NE NW Sec. 29-26-7.	Drlg. 2,785-93 ft.; swab 65 bbls. oil and 35 bbls. water.

CHAUTAUQUA COUNTY

Leighty et al's No. 1 Carr, NW SE Sec. 5-33-9	Drlg. 350 ft.

CLARK COUNTY

Watchorn's No. 2 Morrison, NW NE Sec. 20-32-21w	Drlg. 6,647 ft.; landing 4-in. csg.

CLAY COUNTY

Crystal Oil et al's No. 1 Tivier, SW cor. Sec. 19-8-2	Shut down 1,810 ft.

COFFEY COUNTY

McGregor's No. 1 Wood, NE NW SW Sec. 20-22-15	Drlg. 650 ft.
Roberts et al's No. 1 Hay, SW SE NW Sec. 32-22-15	Fishing 1,100 ft.

COWLEY COUNTY

Tom Fine's No. 1 Boyd, NW NE Sec. 32-32-4	Shut down 2,650 ft.

DICKINSON COUNTY

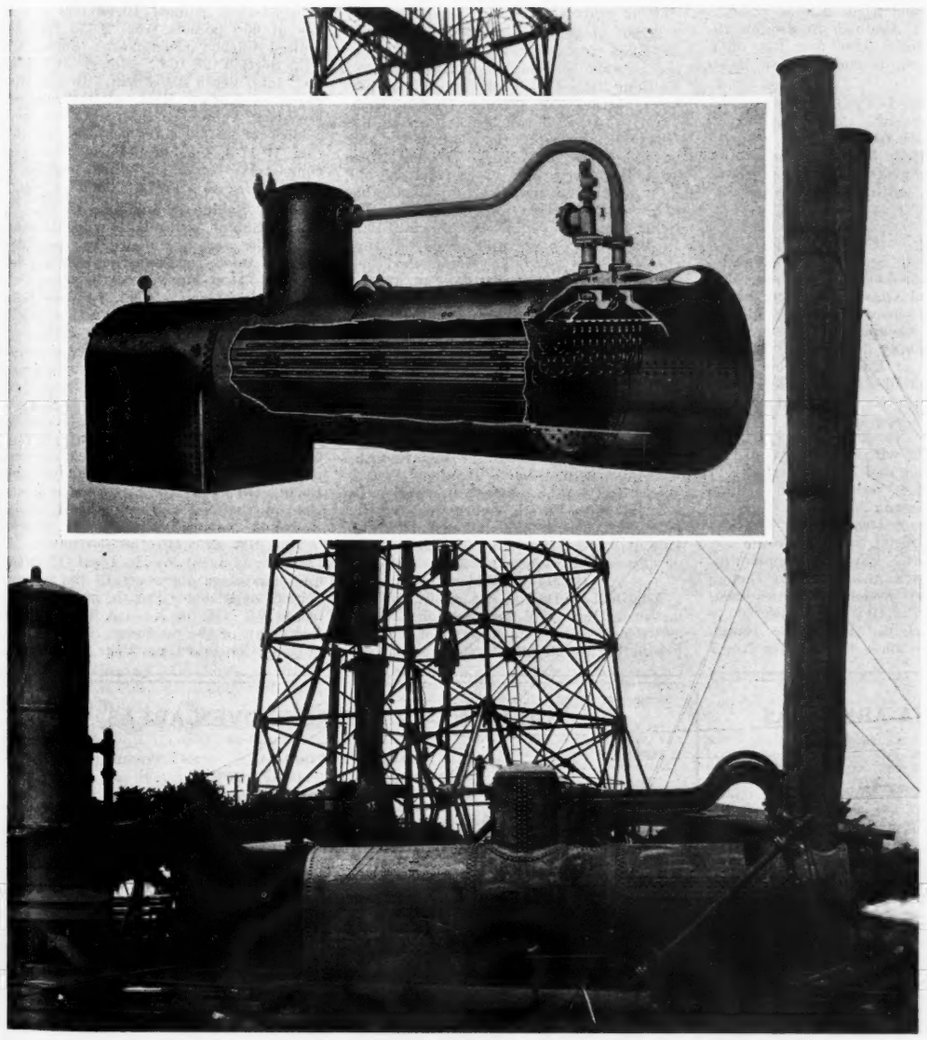
Severs et al's No. 1 Lavengood, NE SW Sec. 13-13-2	Shut down 2,205 ft.
Kruger et al's No. 1 Diche, C NW NE NE Sec. 17-13-4	Shut down 2,936-48 ft.; water.
E. N. Morgan's No. 1 Whithair, NW SE Sec. 9-12-1	Drlg. 3,102 ft.

(Continued on Page 171)

Cut Down Cost With Dry Steam

Continued reports from Oklahoma, where the Broderick Boiler was the first to be equipped with Superheaters, proves by actual operation every economy in saving predicted by preliminary tests.

BRODERICK BOILERS WITH ELESCO SUPERHEATERS



Installation in Oklahoma City by the Noble Drilling Co. Cut-away view shows how hot gases around the tube elements change saturated steam to dry steam.

SOME operators express surprise at increased steam capacity with smaller boiler equipment; others, of course, are pleased with the reserve capacity of the portable boiler sizes they have always used—all realize the advantage of not having to increase size of portable boiler to realize more steam power.

Later installations show big saving in increased efficiency of drilling engines, especially those of the new piston valve, roller bearing type where saturated steam has caused trouble in the past.

The rapid dry steam flow also makes greater pump speeds safe. Let us send you a bulletin giving records of tests with complete description of Broderick Superheaters for boiler sizes. Be sure to ask the National Supply man for the latest results in the Oklahoma field.

THE BRODERICK COMPANY
Boiler Manufacturers
Muncie, Indiana, U.S.A.

Salt Water Showing in Bellevue Well

Waiting on Report of Analysis. Carterville Well Blowing From 75-Foot Crater. Three Failures in Mississippi Tests

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Sept. 8.—Salt water showing up in H. I. Morgan and Shreveport-El Dorado Pipe Line Co.'s No. 2 Kendricks in Section 22-19-11, Bellevue district of Bossier Parish, has given that surprise completion a mile or so south of original Bellevue shallow production an entirely different complexion. However, those interested in that district are waiting report on an analysis of the water before allowing themselves to become too pessimistic. The semiwildcat was written off the field reports this week as a 300-bbl. producer with 500 bbls. of salt water through three-quarter inch choke against 660 pounds working pressure from 1,300 feet and there is some reason to think the water may be coming from above and is not bottom water. Further items of not so good news come from Carterville and Mississippi.

The Texas Company's No. 1 Pine Woods Lumber Co. in Section 25-23-12, Carterville, showed for 20,000,000 feet of gas on drill stem test at 2,663 feet and was allowed to blow overnight and killed the next morning after it had fallen to an estimated 2,500,000 feet of gas. A core from 2,663-72 feet showed 4 feet of shale with 3 feet of sand directly under it. While coming out with another core it blew in again with part of the drill stem in the hole and before long sand had cut the casing with the result that the well began cratering and is still blowing from a crater approximately 75 feet across.

Failures in Mississippi

Mississippi's bad news was three failures, two in the Jackson district of Hinds County and the third A. C. Glassell's wildcat in Wilkinson County. Dome Oil Co.'s No. 1 Elton, NE SW, Section 5-4-1e, Hinds County, topped the chalk at 2,465 feet, cemented 6⅝-inch at 2,436, tested dry, drilled to 2,807 feet, plugged back to test gas shows at 1,334 feet and was finally abandoned. Love Petroleum Co.'s No. 1 Dreyfus, Section 2-5-1e, topped the chalk at 2,594 feet, rather low, tested 5 joints of salt water in 6 minutes and at 2,597 feet was abandoned. Glassell's well, No. 1 Stowers in Section 1-2-5w, Wilkinson County, is nearly opposite Joe Marr's No. 1 Maxwell in Section 35-3n-8e, Concordia Parish, Louisiana, on the opposite side of the river and is on a 24,000-acre block for which a 4,000-foot well was the consideration and was abandoned as a dry hole at 4,017 feet. Farther north, in Adams County, Glassell's No. 1 Artonish in Section 29-8n-2w, a scheduled 3,000-foot test on a 38,000-acre block, is coring below 2,000 feet.

Glassell's No. 1 Pittsfield plantation in Section 41-8n-10e, Concordia Parish, west of the Adams County well, is drilling out cement set to cut off salt water that showed up after the well had blown out last June with an estimated 10,000,000 of gas from 1,453 feet. Operations were suspended after cementing the bottom pending outcome of a deal with Louisiana Gas & Fuel Co. for the well and acreage immediately surrounding, but it is understood Glassell is going ahead and completing the wildcat.

The Texas Company's Pine Woods crater was the only development in Carterville district of Bossier as completion of the Morgan well was all Bellevue had to offer, except the start and surface string of No. 3 Kendrick, and Woodley Petroleum Co.'s No. 3 Schuler, SW NW, Section 13-17-12, with a 2,500,000 feet of gas at 2,480 feet and location for No. 4 on the same lease, was the sum of Sligo district developments.

Homer Deep Test

The rumored deep test for Homer district in Claiborne Parish, a community proposition, is still to materialize though if either of two major companies mentioned come in activity is expected to follow immediately. Meanwhile Baugh and others have made location for No. 1 Alexander in the NE NE, Section 27-20-8, 8 miles southwest of Homer production.

As this is written reports from a second test of Pelham & Bundy's No. 1 Rhodes in Section 23-13-14, DeSoto Parish, a few miles north of Mansfield, were waited for. Following a previous drill stem test of a small showing of oil it drilled to 2,890 feet where it had 5 feet of sand showing oil. Burnham and others' No. 1 Hood in Section 3-11-14, a short distance south of Mansfield tested dry on a show of oil at 2,360 feet and is waiting orders.

After plugging back from 4,292 feet to 4,256 feet, Arkansas Fuel Oil Co. ran another test on No. 1 Lewis & Co., Section 26-20-4, Lincoln Parish, a few miles northeast of Triangle Drilling Co.'s Trinity gas wells in Sugar Creek district of Claiborne Parish, bailed dry and is shut down for orders. It had filled up 1,000 feet in salt water from the old total depth. It seems that considerable interest attaches to the outcome of two wells being drilled in Natchitoches Parish by J. W. Cooper and associates, represented here by J. C. McCormick, one in Section 35-11-10, drilling at around 1,000 feet, and the other to be drilled in Section 32-11-10, both to go 3,500 feet. While both are in untested territory so far as the immediate vicinity goes, several tests drilled during the past in the Lake End area 4 miles east of these locations showed quite a bit of oil and gas. DeSoto-Red River production is about 6 miles north and Zwolle and Pleasant Hill Fields are not so far southwest and west. Ayers Brothers' No. 1 Wickliffe, a rank wildcat in Section 9-5-2e, Rapides Parish, under way for the past year, has been abandoned as a dry hole at 3,550 feet not having had a show of any sort anywhere along the log.

Richland Wildcat

Austin & McDonald ran drill stem test on No. 1 Hunt, SW SW, Section 13-17-5, a wildcat a mile northwest of nearest production in Richland gas area, to see what 5 feet of sand in the Midway, between 2,156-76 feet might hold. It held nothing and they are drilling around 2,300 feet. International Gas Products Co. abandoned location for No. 1 Minnie LaGrone in the SW SW, Section 7-16-7, and United Carbon Co.'s No. 1-A J. M. Thomason, NW SW, Section 22-16-6, was a dry hole at 2,462 feet. A dry hole is still a rarity in Richland, unless it be a rank wildcat, but location of this well 1,900 feet from the Thomason crater undoubtedly has something to do with it. Palmer Corp.'s No. 1 Hill, NW SW, Section 31-16-6, gauged 10,469,000 feet of gas at 650 pounds from 2,450 feet and United Carbon Co.'s No. 1 Boise, NW SE, Section 28-16-6, gauged 51,712,000 feet, total depth 2,454 feet. In the Monroe area Luther Reid, of Monroe, representing Tennessee interests, has taken a block of 20,000 acres centering on Section 19-17-3, Ouachita Parish, five-year commercial leases, in which section he is scheduled to start a 3,000-foot test.

Sabine Abandonments

Two Sabine wells, both wildcats south of Zwolle, were abandoned, one as a derrick for Boon, trustee's No. 1 Stille, Section 4-6-11, at Many, and the other Pelican Natural Gas Co.'s No. 3 Sabine Lumber Co. in the SE NW, Section 6-7-11, on account of salt water at 2,821 feet. On the other hand, completion a couple or three weeks ago of Pelican Natural Gas Co.'s No. 3 Louisiana Long Leaf Lumber Co. in Section 4-7-11 as a 1,000-bbl. well which has since increased to 1,400 bbls. has been followed by locations for four more tests in that section west, north and northeast of the producer. Loring Oil Co.'s No. 1 Garner is a derrick in the NW NE, northeast of the well and No. 1 Trammell is a derrick in the SW NW to the northwest. C. D. Neff, as agent for the Ideal Oil & Gas Co., heretofore operating in the Sarepta district of Webster Parish, made location in the NE NW for No. 1-A Turner, 1,000 feet north of the producer. Pelican Nat-

(Continued on Page 108)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA

AVOYLLES PARISH

Company, farm and location—	Remarks—
Gas-Con Oil Corp.'s No. 1 Morrow (no check), Sec. 14-2s-4e	Rig up.
R. E. Tippett's No. 1 Chateline, NE NE, Sec. 34-1n-3e	Cored S.W. sand 3,140-47 ft.; drlg. S.W. sand 3,400 ft.; S.D. 3,410 ft.

BIENVILLE PARISH

Carter & Dobbs' No. 1 White, 330 ft. N, 330 ft. W, SE cor. SE SE, Sec. 9-18-6	Rig up.
W. A. Nichols et al's No. 1 McDermott, 660 ft. S, 660 ft. W, NE cor. NE NE, Sec. 28-18-6	D.S. test 2,281-2,358 ft.; 1 fourble mud; 10 ft. oil; S.D. for csg.
S. P. Borden's No. 1 Thomas, 330 ft. S, 330 ft. E, NW cor., Sec. 27-16-9	Drlg. 2,387 ft.
Olds & Smith's No. 1 Brice, 330 ft. N, 330 ft. E, SW cor. SE SE, Sec. 15-18-6	Began drlg. Aug. 31; cmtd. 10-in. 100 ft; drlg. 150 ft.

BOSSIER PARISH

Andrews & Daveline's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	S.D; W.O; 20 ft. broken sand; T.D. 1,501 ft.
Autrey Oil Co.'s No. 1 Johnson, 1,120 ft. N, 200 ft. E SW cor. NW, Sec. 34-19-11	Began drlg. July 25; S.D. for fuel 60 ft.
Autrey Oil Co.'s No. 1 McDade, 200 ft. S, 200 ft. E. C, Sec. 28-19-11	Drlg. sandy lime 1,950 ft.
Triangle Drlg. Co.'s No. 1 Bollinger, C SE SE, Sec. 36-23-13	Drlg. 2,920 ft.

CADDO PARISH

L. B. Mawk's No. 1 Swann, 440 ft. N, 200 ft. E. SW cor., Sec. 23-21-14	S.D. for fuel; T.D. 700 ft.

CALDWELL PARISH

Hudson et al's No. 1 Burton, Sec. 35-12-2e	S.D. wtr. 710 ft.

CATAHOULA PARISH

La. G. & F. Co.'s No. 1 Tensas Delta Land Co., 660 ft. N, 1,318 ft. E, SW cor., Sec. 23-6-5	S.D. fuel 1,483 ft.

CLAIBORNE PARISH

Baird Bros. et al's No. 1 Whittaker, 600 ft. N, 400 ft. W, SE cor. NE, Sec. 30-20-7	Drlg. 1,450 ft.
Baugh et al's No. 1 Alexander, 330 ft. S, 330 ft. W. NE cor. Sec. 27-20-8	Location.
El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7	S.D. 2,240 ft.
Triangle Drlg. Co.'s No. 1 Hodges et al, 660 ft. S, 660 ft. E, NW cor. NW SW, Sec. 6-19-5	Cmtd. 9-in. 3,952 ft.

(Continued on Page 96)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

BOSSIER PARISH—BELLEVUE

Company, farm and location—	Remarks—
H. T. Morgan et al's No. 3 Kendricks, 1,120 ft. N, 1,120 ft. E, SW cor., Sec. 22-19-11	Began drlg. Sept. 1, cmtd. 10-in. 143 ft.; drlg. 475 ft.

BOSSIER PARISH—CARTERVILLE

Del.-La. Dev. Co.'s No. 6 Bollinger, 330 ft. S, 220 ft. W, NW cor., Lot 17, in Lot 16, Sec. 31-23-11	Hole full oil; W.O.S.R; 15 ft. broken sand; T.D. 3,217 ft.
Greenwood Prod. Co.'s No. 2 Bollinger, 990 ft. W, 330 ft. S, NE cor. NE SE, Sec. 36-23-12	Cmtd. 6⅝-in. 3,138 ft.; 5 ft. sand; W.O.S.R. 3,173 ft.
O. L. Hickman's No. 4 Bain, 330 ft. N, 330 ft. E, SW cor. NW, Sec. 31-23-11	Cmtd. 6⅝-in. 3,115 ft.; arranging to test 7 ft. sand; T.D. 3,129 ft.
Magnolia Pet. Co.'s No. 2 Matlock, 330 ft. S and W, NE cor. SE SW, Sec. 25-23-12	W.O.S.R. 3,188 ft.
Palmer Corp.'s No. 2 Roberson, 330 ft. N, 330 ft. E, SW cor. NW NE, Sec. 26-23-12	Derrick.
The Texas Co.'s No. 2 Hy Rose, 965 ft. E, 425 ft. N. C, Sec. 31-23-11	O.W.D.D.; began drlg. July 22; drlg. shale 3,147 ft.; old T.D. 3,075 ft.; cmtd. 4½-in. 3,148 ft.; T.D. 3,174 ft.
The Texas Co.'s No. 14 Wilkinson, 990 ft. N, 990 ft. W. SE cor. SE NW, Sec. 36-23-12	Drlg. sandy shale 3,271 ft.
The Texas Co.'s No. 16 Wilkinson, 330 ft. N, 330 ft. E. SW NE, Section 36-23-12	Derrick.
Tippett Drlg. Co.'s No. 3 Holmes, 330 ft. N, 330 ft. E, SW cor. NE NW, Sec. 36-23-12	300 ft. oil in hole; waiting on power; T.D. 3,180 ft.
Woodley et al's No. 1 Roberson, 330 ft. N, 330 ft. W, SE cor. SW NE, Sec. 22-23-12	Surface csg collapsed; W.O.; T.D 1,500 ft.

BOSSIER PARISH—SLIGO

La. G. & F. Co.'s No. 8 Thigpen-Herold, 660 ft. W, 660 ft. N, SE cor. SE SW, Sec. 13-17-12	Drlg. chalk 1,105 ft.
Woodley Pet. Co.'s No. 4 Schuler, 100 ft. E center Section 13-17-12	Began drlg. Aug. 30, cmtd. 10-in. 98 ft.

CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1 Edgar, 1,460 ft. S, 1,900 ft. E, NW cor., Sec. 17-16-16	Location.
Calatex O. & G. Co.'s No. 1 McAnn-Alfred, 1,810 ft. S, 970 ft. E, NW cor., Sec. 17-16-16	Location.

(Continued from Page 92)

Discover New Deep Sand at Refugio

Between 6,447-58 Feet, Deepest Producing Zone Yet Found. Deepest Well at Esperson Blows Out With 50,000,000 Feet of Gas

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Sept. 8.—A new deep sand has been found at Refugio in Independent Oil & Gas Co.'s No. 6 Jerry Reilly, which at a total depth of 6,714 feet is showing oil. In view of the location of the Reilly well in the old 3,700-foot sand producing area and some 2,500 feet to the west of the main deep sand development on the east side of the Refugio Field, this well is one of the most important tests now drilling at Refugio. This well originally was a small producer at 3,683 feet but with the deep sand development it has been deepened. The well failed to find the 5,400-5,500-foot horizon in which the bulk of the deep development has been done, and tested salt water in a lower sand at 6,447-58 feet, so far the deepest producing sand level in the field.

Production in the 5,400-5,500-foot sand received a substantial extension westward at the north end in Saxet Oil Co.'s No. 1 Kay, which came in flowing an estimated 700 bbls. at 5,475-88 feet. This well is in the southwest corner of the tract in Block 6 of the Town Commons and is about 2,000 feet east of the Independent's No. 6 Jerry Reilly.

Two small producers from the 3,700-foot horizons were the only other completions at Refugio during the week, although 1½ miles northeast of the main Refugio production, Houston Oil Co.'s No. 2 Rose Lambert Saturday had set five joints of screen at 5,890 feet and was preparing to test that horizon. The only other producer in that area and in that sand is Union Producing Co.'s No. 1 M. F. Lambert, approximately 1,000 feet to the northward. Houston Oil's No. 1 Rose Lambert, west offset to the No. 1 M. F. Lambert, has failed to make a well in that horizon at 5,917-42 feet after several attempts and has been plugged to 5,000 feet. The 3,700-foot wells were C. A. Tucker's No. 1 Empson, Block 117, flowing 600 bbls. of fluid, 75 per cent water, at 3,696 feet, and Strube and Strube's No. 1 City, Lot 15, Block 4, pumping 380 bbls. at 3,690 feet.

Danbury Dome

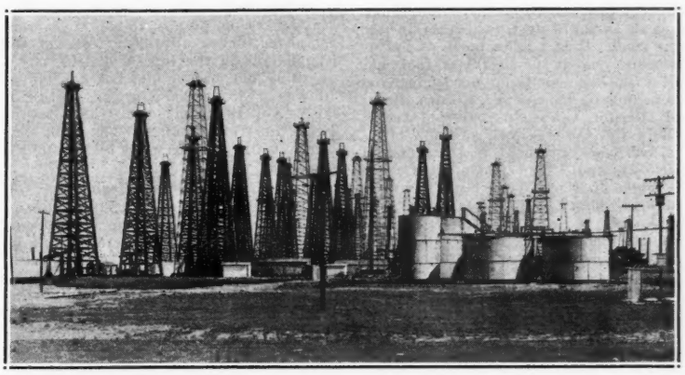
Following an unsuccessful effort to prove shallow production on the Danbury Dome, Brazoria County, to the north, east and west of the first test, Shell Petroleum Corp. has made location for a test to the south. This will be No. 1 Haury, 1,380 feet east and 220 feet south of the northwest corner of the H.&T.B. Survey No. 13. It follows the abandonment early this week of No. 4 Blakely-Winston, which tested salt water at 1,852 feet. No. 1 Haury, now rigged up, is the fifth test to be drilled at Danbury, a geophysically discovered salt dome. The first test, No. 1 Blakely-Winston, swabbed some oil from the shallow sand at a depth of 1,572 feet but did not make a commercial producer. It was deepened to salt, proving the dome, and then plugged back and after testing salt water at several different horizons, was abandoned. Successive wildcats drilled have tested salt water in the shallow sand.

Esperson Field

Yount Lee Oil Co.'s No. 3 Moores Bluff, Esperson Field, western Liberty County, late in the week had not been brought under control. This test, the deepest yet drilled in the Esperson Field, blew out early in the week while fishing stuck drill stem and has been blowing an estimated 50,000,000 feet daily. Total depth of the hole is 7,592 feet. It is 500 feet south of the discovery well, producing from sand at 3,320 feet, and is the most southeasterly test in the field.

On the west side of the field, Cranfill-Reynolds Co.'s No. 5 Davis made another addition to the long series of small but consistent producers which have been completed in that field. It came in flowing 360 bbls. of 41.4 gravity pipe line oil daily from sand at 2,285 feet.

After drilling to a total depth of 6,242 feet without indication of the existence of a salt dome, Pure Oil Co.'s No. 1 Marmotin, Section 33-8s-4e, Lafayette Parish, Louisiana, has been abandoned. The test is the first drilled on what is known as the Carencro salt dome prospect, a short distance north of the town of Carencro. This is one of the newer geophysical locations.



A recent view of a section of the Barbers Hill Field looking south from the warehouse of the Humphreys Corp. on its Kirby lease on the east side of the dome. The Barbers Hill Field with its spreading development around the dome is one of the principal figures in production curtailment efforts on the Gulf Coast.

Humble Dome

The new productive area on the west flank of the Humble Dome was further proved up the past week with the addition of two more producers, Rio Bravo Oil Co.'s Nos. 5 and 6 fee. The former, No. 5, made only a small well and probably will go on the pump, but No. 6 is estimated good for 1,700 bbls. daily. This well was completed flowing 470 bbls. daily but has increased its flow steadily. It is flowing from a sandy shale at a total depth of 4,409 feet with 100 feet of screen in the hole. No. 5 set 46 feet of screen at 3,732 feet and came in flowing 240 bbls.

Of particular interest at Humble is Rio Bravo Oil Co.'s No. 1 H. E. and W. T., which came in several weeks ago flowing 1,200 bbls. daily at 4,306 feet. Since completion the well has increased to 3,000 bbls. daily and is rated as the best well yet completed in the west flank development.

Vinton Field

Two salt water wells in the new pool being developed on the north side of the old Vinton Field probably are serving as a check to development in that area. One of these wells, Wilson-Broach's No. 4 Wilson, 545 feet north and 126 feet east of the SW cor. SE NE, Section 33-10s-12w, tested salt water at a total depth of 3,491 feet. It is pulling screen preparatory to deepening in search of a lower sand.

Gulf Refining Co.'s No. 4 Gardner, a direct offset to the Wilson well, tested salt water at 3,498 feet. It has been shut down. Vinton Petroleum Corp.'s No. 9 Gray, another offset, is drilling sandy shale at 3,226 feet. One other test is drilling in that area, this being Emerson-Moore's No. 1 Gray, formerly a producer at 2,880 feet, but which is drilling deeper at 2,927 feet.

At Orange

The first new well in many months at Orange was brought in Saturday in Sun Oil Co.'s No. 7 Gunstream, William Dyson Survey. The well, although not completed, was flowing at the rate of 500 bbls. daily with 10 feet of screen set at 3,870 feet. The well is 266 feet east of the same company's No. 1. With the exception of an occasional workover there has been no drilling at Orange for over a year.

On Allen Dome

Mills Bennett Production Co.'s No. 1 Reece, Allen Dome, southern Brazoria County, has been abandoned as dry in shale and lime at 4,215 feet.

Saratoga Completion

Rio Bravo Oil Co. added another good small producer in the new 500-foot sand development which the company is doing on its Cotton fee tract at Saratoga. The well is No. 90-A Cotton, making 65 bbls. at 549 feet. The 500-foot wells are being drilled as a part of a repressuring program now under operation. The sand, although known for many years to have existed, has not been developed until within the past few months.

Daily Average Production

Total daily average production of Gulf Coast fields for the week ending September 6 was 195,999 bbls. This represented a decrease of 3,671 bbls., which was attributed to small declines in scattered fields. The total daily average of the Texas coastal fields only was 171,949 bbls. This is a decrease of 1,430 bbls. but it is 19,499 bbls. higher than the apportionment of 150,500 bbls. set for the Gulf Coast in the statewide production curtailment program and

(Continued on Page 107)

GULF COAST FIELDS AND WILDCATS

Week Ended September 6

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 3 E. W. Barber, north	Drlg. shale 4,503 ft.
Mills Bennett Prod. Co.'s No. 1 Henry Fisher, southwest	Drlg. hard sand rock 6,338 ft.
Mills Bennett Prod. Co.'s No. 4 Gulf-Higgins, southwest	Swabbing 5,286 ft.
Mills Bennett Prod. Co.'s No. 2 Means (workover)	Drlg. sand 5,224 ft.
Humble Oil & Ref. Co.'s No. 6 Fee, west	Sand 5,498-5,808 ft.; set 6⅝-in. casing and 12-ft. screen.
Humphreys Corp.'s No. 1 Fitzgerald, north	Drlg. salt 2,567 ft.
Humphreys Corp.'s No. 1-B Barber, north	Drlg. lime rock 2,854 ft.
Humphreys Corp.'s No. 9-A Kirby, northwest	Coring sand 5,729 ft.
Humphreys Corp.'s No. 6-A Barber, northwest	Drlg. sand and shale 4,396 ft.
Humphreys Corp.'s No. 8-B Kirby, northwest	Drlg. lime 2,318 ft.
Humphreys Corp.'s No. 2-H Kirby (workover)	Drill stem stuck 6,617 ft.
McAlbert Oil Co.'s No. 1 Higgins (workover)	Drlg. shale 5,192 ft.
Republic Production Co.'s No. 3 Kirby (workover)	Drlg. shale 5,925 ft.
Rio Bravo Oil Co.'s No. 1 Fisher, southwest	Drlg. sand and shale showing oil 5,857 ft.
Sinclair Oil & Gas Co.'s No. 1 Smith, west	Rig.
Sinclair Oil & Gas Co.'s No. 4 McKinney, southeast	Drlg. gumbo and lime 1,817 ft.
Sun Oil Co.'s No. 9 Wilburn fee, southeast	Drlg. shale and lime 4,466 ft.
Sun Oil Co.'s No. 10 Wilburn fee, southeast	Drlg. hard lime 3,394 ft.
Sun Oil Co.'s No. 10 J. Wilburn, southeast	Rig.
Sun Oil Co.'s No. 11 Wilburn fee, southeast	Drlg. gumbo 1,202 ft.
Sun Oil Co.'s No. 1 Zadie Fisher, southwest	Drlg. shale and lime 4,451 ft.
The Texas Company's No. 4 Wilburn, southeast	Total depth 5,149 ft.; pumping wash water.
The Texas Company's No. 1 Williams, southwest	Drlg. shale and lime 4,337 ft.
The Texas Company's No. 1 Winfree, west	Drlg. rock 667 ft.
Yount Lee Oil Co.'s No. 1 Fisher (workover)	Oil sand 6,163-85 ft.
Yount Lee Oil Co.'s No. 1 Hindman, southwest	Coring sand 4,969 ft.
Yount Lee Oil Co.'s No. 15 Chambers, south	Oil sand 4,549 ft.; cmtd. csg.
Yount Lee Oil Co.'s No. 3 Fisher, southeast	Drlg. sandy shale 5,811 ft.
Yount Lee Oil Co.'s No. 5 Phillips, southwest	Drlg. sand 3,309 ft.
Yount Lee Oil Co.'s No. 9 Woodward, southeast	Drlg. shale and lime 1,697 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 9 Thompson	Drlg. sand 3,206 ft.; cmtd. 6⅝-in. csg. 3,175 ft.
Humble & Valley's No. 1 Fritz Lamp	Drlg. sandy shale 2,545 ft.
Humble & Valley's No. 3 Buchanan	Derrick.
Humble & Valley's No. 3 Diemar	Drlg. sand and shale 1,019 ft.
Humble & Valley's No. 3-B Hardy	Derrick.
Humble & Valley's No. 9 Mueller	Digging cellar.
Humble & Valley's No. 7 Payne	Derrick.
Humble & Valley's No. 8 Payne	Derrick.
Humble & Valley's No. 10 Payne	Drlg. shale and lime 1,282 ft.
Humble & Valley's No. 4 Wilson	Derrick.
Humble & Valley's No. 6 Woodley	Derrick.
Humble & Valley's No. 7 Woodley	Derrick.
Humble & Valley's No. 8 Woodley	Derrick.
Humble & Valley's No. 9 Woodley	Derrick.
Humble & Valley's No. 10 Woodley	Location.
Humble Oil & Ref. Co.'s No. 1 Hugo-Hagen	Drlg. sand and shale 1,182 ft.

HUMBLE—HARRIS COUNTY

Cullen West's No. 3 Burt, east	Location.
Cullen West's No. 5 Lee, south	Moving in.
John Deering's No. 1 Graf	Oil sand 4,464 ft.; cem. 6⅝-in. casing 4,410 ft.
Houtex Production Co.'s No. 1 Burgess	Location.
LaRue, trustee's No. 1 Crane, northwest	Derrick.
M. LaRue, trustee's No. 1 Tuffly, northwest	Location.
Raybourn et al's No. 1 Cherry, west	Location.
Rio Bravo Oil Co.'s No. 5 Fee, west	Total depth 3,784 ft.; oil sand and shale 3,732-78 ft.; set 46 ft. screen; comp. flowing 24 bbls. pipe line oil.

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New Drilling Campaign in Darst Creek

More Than Dozen Locations Made in Past Week. Possible New Shallow Area Near Thrall. Bee County Wildcat May Open New Pool

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Sept. 8.—Darst Creek which sagged considerably in activity for the past couple of months has suddenly come to life again and there are more than a dozen new locations that have been made within the last week and the field is again in the midst of a drilling campaign. Gulf and Magnolia have made the most new locations, and it accounts for the fact that the Balcones fault region around San Antonio leads Southwest Texas in the number of new locations.

Completions, abandonments and new locations were more or less featureless for the week but there were a number of interesting things happened. Humble Pipe Line Co. is starting to lay the first oil line out of the Pettus Field to Refugio to join its line from these to Ingleside; Houston Oil Co. finally lost its No. 1 Boothe, the deep test in the Cartwright Field in Live Oak County that looked like a well and is skidding the rig; a wildcat 3 miles north of Thrall in Williamson County looks like the opening of another shallow pool; Simms Oil Co.'s No. 1 Holzmark, a wildcat in Bee County, has set casing and threatens a new pool; and Grayburg Oil Co. is making a last-minute effort to make a producer and save its discovery well in Bee County.

The most watched wildcat as the week closes is the Simms Oil Co.'s No. 1 Holzmark, 12 miles southwest of the Pettus Field, which showed an oil sand at 3,541-47 feet and has set casing after first making a drill stem test. The drill stem test didn't show up as good as expected but it showed enough oil and gas that along with the showing of the core the company decided to set and test. It will probably drill in this week.

Northern Bee County has had eight new producing spots in a period of eight months. Bringing in of the gas production at around 2,900 feet north and east of Pettus started the wildcatters and they are active all over that part of the country extending into Goliad, Karnes, Live Oak Counties, and for many miles more up and down the northeast-southwest trend in that part of the State. The new pools outside of the gas area discovered primarily by the Mission Drilling Co. in the Pierce Miller Survey are the Ray-McKinney area where the first oil well was completed, the Pettus Townsite, Cosden area, Grayburg area, Normana gas area, Price gas well, Zoch gas well in Goliad and Morgan's gas well in the Habbermacher Survey, the Mission Drilling Co.'s No. 3 Ray, 2½ miles east of the Ray-McKinney spot, and now the Simms' No. 1 Holzmark.

This makes a total of 11 producing spots in northern Bee and northwestern Goliad and of these eight have been found in eight months. Thus far only three have developed to important stages. These are the Ray-McKinney area, a mile east of the townsite, where there are a half dozen producing oil wells; the Pettus Townsite, where there is another bunch, and the Cosden area, 1½ miles west of Pettus, where there is more production. The other spots are mainly gas with the exception of the Grayburg Pool 7 miles southwest of Pettus which all but had one well completed and nearly lost it. The well is No. 1 Kimball in the Stephen Winship Survey and it was once reported abandoned, but the company is making another effort to save it. The stuff in the bottom of the hole was cemented off and drilled by and another string of casing started into the hole. There was more trouble and now the company has a string of 4½-inch which it is trying to set.

Pettus Completions

Of the Pettus completions the past week three were in the Cosden Pool west of Pettus Townsite, three are townsite wells and the seventh is the Union Producing Co.'s No. 24 Ray, a half mile north of the discovery gas well of northern Bee County, and at 2,870 feet, which is in the same sand. It is 2 miles north of Pettus Townsite and is a 15,000,000-foot gas well with 725 pounds on the tubing and 420 pounds on the casing. Cosden, Batex and Houston Oil each completed an oil well in the Cosden Pool. In the townsite, Glasscock Brothers, in the center of Block 24, and Union Producing Co., in the center of Block 37, each got gas wells making 75 bbls. of oil, and Humble Oil & Refining Co.'s No. 6 McKinney, a south offset to the townsite, is a 500-bbl. well. All three are completed at around 3,900 feet.

The Grayburg area 7 miles southwest of Pettus Townsite got another setback which had been suspected some days before when Hewitt abandoned his No. 1 Mauldin at 3,650 feet, south of the Grayburg discovery well. There have been abandonments east, south and west of Grayburg's discovery well, all at a distance of a half mile or more.

The disappointment of the week was the abandonment of the Houston Oil Co.'s No. 1 Boothe, three-quarters of a mile north of gas production in the Cartwright gas field in southeastern Live Oak County. Gas production is at about 2,150 feet. No. 1 Boothe got a showing of oil at below 5,000 feet but in trying to complete it got the pipe stuck and pulled the derrick in while trying to pull the pipe. A new derrick was built and the company tried to sidetrack but finally lost the hole and is skidding the derrick and will start all over again. It will therefore be some weeks before there is any danger of the country being flooded with oil from that quarter.

Location for Catlett & O'Neill's No. 1 Pugh in Live Oak County, a wildcat proposition, has been abandoned, and the Houston Oil Co. will drill the test but has moved the location a little and it is now on the D. W. Snyder farm in the E. Garner Survey, 630 feet from the south line and 150 feet from the east line of the 1,176-acre farm.

Laredo District

In the Escobas-Muckleroy Pool in Zapata County 50, 60 and 75-bbl. wells were completed, seven all told. None of the completions in the Laredo district added anything but production and one of the 10 was a 35,000,000-foot gas well, Killam's No. 19 Bruni, near the town of Bruni in Webb County. The eight new locations in the district are all around the producing spots.

Balcones Fault Region

In the Balcones fault region outside of the increased activity in the Darst Creek Field, the feature of interest is Andy Anderson's No. 1 Forwood, 3 miles north of Thrall in Williamson County in wildcat country, topping the chalk at 980 feet and with total depth of 997 feet, showing 300 feet of oil and estimated as a 10 to 25-bbl. well. O'Neill, who blocked the acreage where the Chapman Pool was discovered, blocked the acreage around this and Buck Alexander, who drilled the discovery well in the Chapman Pool, also drilled this one.

When the Chapman Pool came in oil men refused to believe the wells were making the oil they were claimed to be making until it was too late to get in. The discovery north of Thrall has filled the county with oil men who do not propose to take a chance again.

Darst Creek Field

In the Darst Creek Field the Magnolia Petroleum Co.'s No. 4 Richburg ran into a crevice at 2,305 feet and has stopped to set casing. Crevice wells in that field have been the biggest producers.

J. S. Suttle's No. 2 Baenzinger, south of Seguin, is down 1,350 feet and standing. This and the new location of Cranfill & Reynolds for their No. 1 Meyer in the same county south of Seguin are the interesting wildcats in that territory, but it will be some days before they are deep enough to tell.

Grayburg's No. 2 Wells, southeast of Darst Creek Field and in Guadalupe County, was below 3,000 feet at the close of the week. No. 1 topped the chalk at 3,495 feet so No. 2 will be interesting this week. No. 1 got the formations low. No. 2 is located southeast of No. 1 and was expected to get the formations higher.

Williamson County

The Chapman Pool has produced nearly 1,000,000 bbls. of oil since it was discovered, this including the oil burned for fuel in the drilling of wells in the field, and amounting to 131,200 bbls. The Williamson County pipe line has nearly 100,000 bbls. in storage in the field and pipe line runs and tank car shipments amount to about 650,000 bbls.

The new All-State refinery at Thrall with a capacity of 3,000 bbls. daily is now complete and has started running oil from the field. Also the refinery at Taylor, just south of the town, is under construction and soon to be completed with a capacity of 5,000 bbls. daily and a 4-inch line is being constructed from the field to this refinery.

Pipe line runs from the Chapman Pool from the completion of the pipe line down to the last of August account for 572,852 bbls. of oil. Figures showing the total estimate of 912,924 bbls. from the pool and the pipe line runs from the pool by leases is given here:

	Bbls.
Pipe line runs from field	572,852
Tank car shipments	81,968
Used for fuel in the field	131,200
Williamson County pipe line storage	96,387
Storage on leases in field	27,387
Runs to Williamson County pipe line refinery	1,930
In pipe lines and tank cars not shipped	1,200
Total	912,924

Production of the field by leases and companies and showing the daily average for the last week in August with the total for the week and the total that was moved out of the field is given as follows:

Company and lease—	Daily average	Weekly total	Total to date
Anderson-Cameron:			
Lawrence	2,309	16,165	195,271
Simmons	225	1,573	12,171
Anderson et al:			
Simmons	197	1,381	16,408
Big Indian:			
Lawrence	79	556	7,246
Chapman-McMurray:			
Lawrence	119	831	9,544
Collins:			
Lawrence	361	2,527	31,658
Crabtree & Wilder:			
O. Simmons	29	201	4,364
Ertell:			
Abbott	6	43	4,996
Luke Interest:			
Lawrence			3,292
Marts:			
Simmons	873	6,109	29,470
Nash:			
Abbott	62	432	4,232
Priestmeyer:			
Lawrence	264	1,846	18,388
Reilly:			
Lawrence	211	1,478	4,499
Sequoia:			
Simmons	2,355	16,487	107,857
Stratton:			
Abbott	672	4,704	34,048
Stratton-McMurray:			
Abbott	123	859	3,004
Westbrook:			
Abbott	143	1,002	12,189
Simmons	166	1,161	16,045
Williamson Holding Co.:			
Kilgore	879	6,153	58,177
Total	9,073	63,508	572,852

Chapman Proration

In the hearing before the railroad commission at Austin C. P. Link, representing the operators of the Chapman Field, and E. L. Chapman and his attorneys sought to get proration of that pool raised

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WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks:
Frontier Oil Co.'s No. 2 Boynton, 775 ft. SW of Brown-Fuller gas well	T. D. 1,401 ft.; drlg.
Nute, Walder & Derden's No. 1 J. B. Young, 750 ft. W line, 370 ft. E line of 107-ac. tract in the Wm. Moore Sur.	Location.

BLANCO COUNTY

Anderson & Manning's No. 1 Speer, 600 ft. to S line, 800 ft. to W line, John W. Speer Sur.	Moving in rig.
Ben H. Ashe Pet. Corp.'s No. 1 Glasscock, moving in to drill on leases out of the Rodson block north of Blanco City	Location.
Hardy Sitton's No. 1 McMillan	T. D. 130 ft.; drlg.
Liles-Adams et al's No. 1 Stanford, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T. D. 453 ft.; set csg.
McCreary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to S line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City	T. D. 600 ft.; set csg.
J. R. Meek's No. 1 Walker, 360 rds. from W line, 482 rds. from S line of 375-ac. tract in Survey No. 23	T. D. 520 ft.; set csg.
C. Rosenfield's No. 1 Hohenberger, 800 ft. to W line, 1,250 ft. to N line, Sur. No. 94	Spudded.

BASTROP COUNTY

Pacific Oil & Gas Co.'s No. 1 J. Spooner, 300 ft. from N line, 400 ft. from W line in the L. Lavenuz Sur., 4½ miles E from Cedar Creek	T. D. 2,368 ft.; shut down.
Pacific Oil & Gas Co.'s No. 1 J. M. Litton, 150 ft. N and W lines of tract	Derrick.
Majestic Pet. Co.'s No. 1 J. M. Breeding, 160 ft. from N line, 1,620 ft. from W line of 200-ac. tract, 940 varas from W line, 1,225 varas from S line of M. Andrews Sur., 13 miles W from Smithville	T. D. 76 ft. (corrected); shut down.
Champion and others' No. 1 Smith, 2,541 ft. to NW line, 663 ft. to SW line of tract, E. Standifer Sur.	T. D. 1,600 ft.; drlg.
Texas Pet. Products Co.'s No. 1 Trigg, Stewart Sur.	Location.
Texas Dev. Co.'s No. 1 H. B. Smith, 2,341 ft. N line, 663 ft. W line of tract, J. Burleson Sur.	Location.

BROOKS COUNTY

Humble Oil & Ref. Co.-Shell Pet. Corp.'s No. 2 Wm. Singers, 1,320 ft. W of E line, 1,800 ft. S of N line of Sec. 312, Alta Verde area, 7 miles SE from Lasater gas field	T. D. 4,773 ft.; to drill deeper.

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Three Locations Made in Hobbs Pool

Fort Morgan, Colorado, Test Fails to Pick up Hygiene Sand. Show of Gas in Douglas County. New Black Oil Pool in Park County, Wyoming

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Sept. 9.—A decrease in the number of locations in the Hobbs Pool was reported this week, there being only three new wells started. Three wells were completed, two by the Humble Oil & Refining Co. and one by the Shell Petroleum Corp. One Humble well gauged 513 bbls. the first hour and the other 439 bbls. in the same period. The Shell well was not up to its offsets. The Gypsy Oil Co.'s No. 3 Grimes topped the record with a potential of 21,972 bbls. on umpire's gauge and the Midwest Refining Co.'s No. 8 State, also reported last week, had a potential of 19,953 bbls. The Tidal Oil Co.'s No. 1 Colman in the Eunice area is drilling deeper after swabbing 353 bbls. in 24 hours. Two other wells in this area are showing big gas production. George F. Getty, Inc.'s No. 5 Dooley, in the Twin Mounds Pool in Eddy County, was abandoned at 1,554 feet.

The Indian Territory Illuminating Oil Co.'s Fort Morgan test in Colorado failed to pick up the Hygiene sand under 3,000 feet. A show of gas in the Perry Park Oil Co.'s test in Douglas County is attracting attention. A fire destroyed the rig on the Texas Production Co.'s No. 12 Knowlton on the Moffat Dome but did not damage the well. The Magnolia Petroleum Co.'s Piceance Creek test in Rio Blanco County, gauged 1,876,000 feet of gas after plugging back.

The Midwest Refining Co.'s Midway Dome discovery in Wyoming is being given a pumping test. The Argo Oil Co. had a show of oil and gas in the Amsden in Mule Creek and the Osage Field in Weston County had another completion flowing 380 bbls. the first 12 hours. The Producers & Refiners Corp. completed a small well on the Pitchfork structure in Park County, opening a new black oil pool, and Kirk & Arnott have a 300-bbl. well on the Frannie Dome.

NEW MEXICO

Hobbs Pool—Lea County

There were only three new locations made in the Hobbs Pool in Lea County, New Mexico, the past week, the smallest number in several weeks. These were all in the proven area as follows: Amerada Petroleum Corp.'s No. 3-B State, SE NW NE, Section 29-18-38, digging cellar; Amerada's No. 4-B State, NE cor. NW, Section 29-18-38, digging cellar; and Midwest Refining Co.'s No. 1 McKinley, NE cor. NW, Section 5-19-38, cellar completed.

Gypsy Oil Co.'s No. 3 Grimes, NE cor. SW, Section 32-18-38, which last week was reported flowing 604 bbls. in 30 minutes, proved to be the largest well so far completed in the pool. On a company gauge it was given a potential of 29,030 bbls. a day, or 7,534 bbls. greater than Tidal Oil Co.'s No. 1 Grimes, which held the record. Gypsy's No. 3 Grimes found the pay at 3,975-4,154 feet. It is a diagonal offset on the southwest to Amerada Petroleum Corp.'s No. 1-A State, SW NW NE, Section 32, which was given a potential of 19,308 bbls., and an offset on the west to Shell Petroleum Corp.'s No. 2 State, NW SW NE, Section 32, rated at 7,646 bbls. per day. It proved to be a bigger well than both of the offsets combined.

Midwest Refining Co.'s No. 8 State, C NW NW, Section 4-19-38, last week reported flowing 400 bbls. the first hour through tubing, was given a potential of 19,953 bbls., with 15,000,000 feet of gas. The 3-inch tubing is at 3,980 feet. Total depth is 4,175 feet. It is an offset on the east to Sun Oil Co.'s No. 1 McKinley, which made 11,000 bbls. initial.

In addition to these two, there were three other completions. Shell Petroleum Corp.'s No. 3-A State, SE cor. NE, Section 32-18-38, did not come up to the record of other wells in that immediate area and was rated at 1,128 bbls. of oil and 38,000,000 feet of gas. It was completed at 4,185 feet in lime and top of the pay was 3,991 feet. It averaged 41 bbls. per hour the first two hours. It is an offset on the north to Ohio Oil Co.-Independent's No. 3 State-Northrup, credited with a potential of 18,884 bbls. Humble Oil & Refining Co.'s No. 3 Bowers, SW cor., Section 29-18-38, topped pay at 3,908 feet and was drilled to 4,202 feet. It gauged 513 bbls. the first hour, showing 10 per cent water, and 13,250,000 feet of gas. The 3-inch tubing was at 4,167 feet. After the test it was shut in for gauging to establish its potential. Humble's No. 4 Bowers, SE cor., Section 32-18-38, an offset on the west to its No. 3 Bowers, topped pay at 3,995 feet and was drilled to 4,206 feet. It gauged 439 bbls. the first hour and 10,000,000 feet of gas and was shut in for potential test. The 3-inch was at 4,174 feet.

Drilling Operations

Routine drilling operations include the following:

Amerada Petroleum Corp.'s No. 2-A State, NE cor., Section 32-18-38, is drilling at 2,983 feet in anhydrite. It had the first gas at 2,774-86 feet. Top of the brown lime was at 2,770 feet and elevation is 3,651 feet. Same company's No. 1-B State, SW SE NW, Section 29-18-38, is drilling at 3,800 feet in lime. It had gas and oil shows at 3,755-56 feet. Amerada's No. 2-B State, SE SW NE, Section 29-18-38, cemented 6⅝-inch at 3,996 feet. There was an increase in gas at 3,680 feet. Same company's No. 4 McKinley, SW cor. NW, Section 30-18-38, is drilling at 1,178 feet in red rock.

Atlantic Oil Producing Co.'s No. 1 State, NE cor., Section 6-19-38, is bottomed at 3,966 feet in lime and running 7-inch. There was an increase in the oil and gas at 3,744-64 feet and another at 3,915-60 feet. Same company's No. 1 Grimes, SW cor. SE, Section 20-18-38, cemented 12½-inch at 236 feet in the red beds. It spudded August 22.

California Co.'s No. 2 State, NE SW SE, Section 29-18-38, is drilling at 3,625 feet in lime and anhydrite, and its No. 3 State, SE cor., Section 29-18-38, is drilling at 2,103 feet in salt. The last named topped anhydrite at 1,555 feet and salt at 1,735 feet. Its elevation is 3,647 feet. Same company's No. 4 State, SW cor. SE, Section 29-18-38, cemented 13⅜-inch at 210 feet in red rock and is rigging up rotary, and its No. 1 McKinley, 2,310 feet from north line and 1,320 feet from west line, Section 20-18-38, cemented 13⅜-inch at 237 feet.

Continental Oil Co.'s No. 1-A State, SE NW SE, Section 29-18-38, is drilling at 3,695 feet in anhydrite and had gas at 3,639-48 feet. Its No. 2-A State, SE cor. SW, Section 29-18-38, is drilling at 2,880 feet in anhydrite and had a show of gas at 2,780 feet and a show of oil at 3,102 feet. Same company's No. 3-A State, NE NW SE, Section 29-18-38, cemented 9⅝-inch at 2,729 feet, and its No. 4-A State, NE NW SE, Section 29-18-38, is a location. Continental's No. 1-B State, C SW SW, Section 33-18-38, cemented 7-inch at 3,976 feet, and its No. 2-B State, NW cor. SW, Section 33-18-38, is drilling at 3,630 feet in lime and had an increase in gas at 3,285 feet. Continental's No. 3-B State, CNL SW, Section 33-18-38, is drilling at 1,732 feet in salt. It topped anhydrite at 1,545 feet and salt at 1,655 feet.

Empire Gas & Fuel Co.'s No. 1 Boon-Hardin, SE cor. NW, Section 19-18-38, is drilling at 3,200 feet in lime. It topped the brown lime at 2,855 feet and had first gas at 2,874-80 feet. Elevation is 3,662 feet. Same company's No. 2 Boon-Hardin, SW cor. NW, Section 19-18-38, cemented 9⅝-inch at 2,752 feet. It topped anhydrite at 1,490 feet and elevation is 3,665 feet. The Empire's No. 2 Fowler, NW cor. NE, Section 31-18-38, cemented 7-inch at 3,951 feet.

George F. Getty, Inc.'s No. 5 McKinley, NE cor., Section 30-18-38, is still a location.

Gypsy Operations

Gypsy Oil Co.'s No. 4 Grimes, NE cor. NW, Section 32-18-38, is drilling at 3,692 feet, and its No. 5 Grimes, SW cor., Section 32, cemented 6⅝-inch at 3,908 feet and is waiting. Its No. 6 Grimes, SE cor. SW, Section 32-18-38, is drilling at 524 feet. Gypsy's No. 1 Graham, SE cor. NE, Section 24-18-37, farthest to the northwest of any well in the field, cemented 6⅝-inch at 4,085 feet. It was flowing 150 to 200 bbls. per hour, and will be a good well.

Humble Oil & Refining Co.'s No. 5 Bowers, NW NE SE, Section 30-18-38, is drilling at 3,489 feet, and its No. 8 Bowers, SW cor. SE, Section 30-18-38, is drilling in lime and anhydrite at 3,393 feet and had first oil at 3,190-94 feet. Humble's No. 9 Bowers, SE SW NW, Section 29-18-38, is bottomed at 3,728 feet and is shut in for a pressure test. It gauged 800 pounds with a hole full of drilling water. Same company's No. 10 Bowers, NE NW SW, Section 29-18-38, is drilling at 460 feet in red rock, and its No. 1 Grimes, SW NE NE, Section 29-18-38, cemented 12½-inch at 245 feet in red rock and is rigging up rotary. Humble's No. 1-A State, NE cor. SE, Section 25-18-38, is drilling at 190 feet in red rock. It spudded August 24.

Landreth Production Co.'s No. 1-B State, SW cor. NW, Section 33-18-38, is drilling at 4,052 feet in lime, and its No. 2-B State, 2,310 feet from north line and 1,320 feet from west line, Section 33-18-38, is drilling at 3,475 feet in anhydrite. Last named topped brown lime at 2,752 feet and had first gas at 2,765 feet and first oil at 3,145 feet. Elevation is 3,642 feet.

Midwest Refining Co.'s No. 6 McKinley, NW cor., Section 5-19-38, is drilling at 1,290 feet in red rock, and its No. 26 Terry, C SE SE, Section 9-19-38, is drilling at 2,535 feet in salt. Same company's No. 33 State, SE SW NW, Section 4-19-38, is bottomed at 4,175 feet and rigging up cable tools and its No. 29 Turner, C SW SW, Section 34-18-38, has cellar completed. Midwest's No. 4 State, NE NW SE, Section 4-19-38, is drilling at 3,771 feet in anhydrite and had a show of oil at 3,170 feet and a show of oil and gas at 3,642-68 feet. Its No. 26 State, C SE NW, Section 4-19-38, is bottomed at 4,035 feet in lime and cemented 6⅝-inch at 3,997 feet.

Ohio Oil Tests

Ohio Oil Co.'s No. 2 State, SE cor. SW, Section 30-18-38, is drilling at 3,237 feet in anhydrite and lime. It topped brown lime at 2,805 feet, had first gas at 2,820 feet and first oil at 3,196-3,204 feet. Elevation is 3,652 feet. Same com-

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ONTARIO SHALLOW FIELDS DECLINE; NEW TEST IN PEACE RIVER DISTRICT

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Sept. 6.—Official figures covering petroleum and natural gas production in the province of Ontario for the six months' period ending June 30, 1930, have been issued by the provincial Department of Mines. These figures show a further steady decline on the production of crude petroleum from the shallow fields of southwestern Ontario, the output being 55,041 bbls., valued at $112,223, compared with 60,318 bbls. valued at $145,807 in the same period of 1929.

Production now comes almost entirely from the old shallow fields producing from the Onondaga and corniferous limestones. The Petrolia Field is the most important producer, with Oil Springs second and Bothwell third. There are smaller pools in Moore, Plympton and Sarnia Townships in Lambton County, and in Mosa Township in Middlesex County. The Petrolia Field has been producing continuously since about 1860. On the other hand, the Tilbury Field, which came into production in the Salina and Guelph-Niagara formations as recently as 1905, and the Dover Field, which encountered oil in the Trenton limestone in 1917, are no longer factors in Ontario production, the Tilbury Field having long since petered out, while Dover oil production was shut off to facilitate the still important natural gas production from the same area.

Possibilities of new production from Ontario fields in the near future, or the opening of new fields, may be regarded as rather remote. Most drilling now being carried on is financed by the large pipe line companies primarily interested in further gas reserves; and wildcatting for oil is discouraged by the difficult financial situation. In the search for gas, for which there is a ready market, it is possible that in time new oil fields may be opened.

While petroleum production declined in the six months, the production of natural gas showed an increase. Natural gas produced in Ontario amounted to 4,717,000,000 feet, valued at $2,536,000, compared with 3,900,000,000 feet, valued at $2,340,000, in the same period of 1929. The older fields are being well handled with a view to securing the maximum production to meet increasing demands for gas, and some new production has been developed in the Dawn Field, in Lambton County, and the new D'Clute Field, in Kent County. Drilling operations are being continued by the pipe line companies, while several other companies are carrying on development work with a view to selling their production to the pipe lines.

Peace River Test

In northern Alberta, an important new test is being drilled by Vancouver interests in the old Peace River Field. Four-X Oils, Ltd., was incorporated recently at Vancouver, B. C., to test acreage on the Peace and Smoky Rivers. H. M. Yourex is managing director, and H. A. George, secretary of the Peace River Board of Trade, is president. The company holds leases on 2,000 acres. No. 1 well is reported drilling around 400 feet in LSD 7, Section 36-83-22w5, within 2 miles of Peace River town. Location was selected after careful study of the log

(Continued on Page 128)

Kettleman Area Extended Four Miles

Third Completion Outside Agreement District. Curtailment of State to New Figures Still Debated

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Sept. 6.—The operators general committee on state-wide curtailment failed to reach an agreement at a meeting held in Los Angeles this week and an adjournment was taken until Wednesday in order that everyone might have ample time to consider the recommendations made by the general economic committee that crude oil production in California be reduced to 550,000 bbls. per day. It is quite evident that there was no unanimity of opinion as to the best policy to pursue, notwithstanding that the economic survey completed early this week indicated that it would be advisable to make a drastic reduction in crude oil production in order to offset a decline in consumption. The fact-finding committee, headed by W. E. Dunlap of the Richfield Oil Co., set up four productive schedules early in the week, one permitting a maximum crude oil production of 611,500 bbls. per day, another 596,000 bbls. daily, a third 575,000 bbls. and a fourth 550,000 bbls. per day. After considerable discussion the special committee of 11, consisting of Earl Wagy, Standard Oil Co.; T. E. Swigart, Shell Oil Co.; R. E. Haylett, Union Oil Co.; W. E. Dunlap, Richfield Oil Co.; L. M. Lockhart, Rio Grande Oil Co.; Ross McCollum, Signal Oil & Gas Co.; C. R. McCollum, Pacific Western Oil Co.; A. S. Hayes, General Petroleum; Hooper Dunbar, Bell View Oil Co.; Allen T. Jergins of the Jergins Trust, and Ralph Lloyd, a landowner, decided to indorse the fourth schedule, which establishes a maximum state production of 550,000 bbls. per day. This recommendation was made to the operators general committee on state-wide curtailment last Thursday but final action was postponed until next week. If the committee decides that it is necessary to reduce state production of crude oil to 550,000 bbls. per day, or 46,000 bbls. per day below the existing maximum of 596,000 bbls., in order to stabilize conditions during the coming winter, operators will be obliged to reduce current production approximately 55,000 bbls. per day. In order to do this it will be necessary to make a cut of 52 per cent from the potential production of all fields in Group 1, which consists of Long Beach, Elwood, Kern Front, Maricopa Flats, Mount Poso, Round Mountain, Santa Fe Springs and Ventura Avenue. The present curtailment in this group is 47.8 per cent. In Group No. 2, comprising the settled fields, cuts ranging from 10 per cent to 98 per cent will have to be made in the potential of each field. Group No. 3, which includes Kettleman Hills and Playa Del Rey, will be expected to effect a substantial curtailment. It is hoped to make a cut of 90 per cent at Kettleman Hills and approximately 20 per cent at Playa Del Rey.

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	....	.....	68,690	997,250
Fuel oil	.....	.....	.....	.....	71,950	49,950
Diesel and gas oil	.....	.....	91,281	13,040	2,385,476	1,210,934
Gasoline	412,323	58,903	440,782	62,969	13,587,797	13,807,335
Naphtha distillate	.....	.....	.....	.....	.....	81,750
Coastwise—						
Crude oil	211,000	30,143	516,123	73,732	10,356,603	17,501,525
Fuel oil	510,092	72,870	429,511	61,359	11,536,078	13,337,639
Diesel and gas oil	.....	.....	28,338	4,048	1,186,938	794,923
Gasoline	352,379	50,340	375,558	53,651	8,691,787	7,508,804
Kerosene	5,177	740	5,133	733	134,514	61,619
Exports—						
Crude oil	192,996	27,571	120,843	17,263	4,735,789	3,884,256
Fuel oil	290,392	41,485	355,484	50,783	12,176,089	12,417,221
Diesel and gas oil	63,322	9,046	80,080	11,440	3,133,485	1,834,765
Gasoline	418,029	59,718	289,433	41,319	10,863,092	7,934,389
Kerosene	92,511	13,216	128,039	18,291	2,790,716	2,230,691
Lubricants	.....	.....	4,598	657	14,680	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	227,648	.....
Gasoline	67,310	9,616	.....	.....	850,677	1,505,375
Lubricants	7,998	1,143	.....	.....	24,774	138,706
Coastwise—						
Fuel oil	.....	.....	48,728	6,961	2,337,108	1,832,413
Diesel and gas oil	.....	.....	5,140	734	190,516	342,313
Gasoline	16,128	2,304	25,910	3,701	2,749,974	3,444,526
Kerosene	1,520	217	.....	.....	154,222	96,996
Exports—						
Crude oil	.....	.....	.....	.....	3,075	121,603
Fuel oil	.....	.....	.....	.....	662,135	602,070
Diesel and gas oil	.....	.....	91,620	13,089	398,829	261,565
Gasoline	178,101	25,443	.....	.....	2,783,272	3,945,797
Kerosene	5,160	737	.....	.....	508,528	406,730
Lubricants	.....	.....	.....	.....	18,672	25,713

Kettleman Extension

The most important development in California during the current week was the completion of the Superior Oil Co.'s No. 1 Huffman at Kettleman Hills flowing 6,500 bbls. of clean 45 gravity crude oil and 80,000,000 feet of gas per day from 8,327 feet. The importance which attaches to the completion of this new well is that it extends the productive area 4 miles westward and greatly increases the amount of proven productive acreage. This new well is a little over 10 miles west of the General Petroleum's No. 2 Ochsner in Section 26-22-18, which was finished a few months ago and subsequently shut down in conformity with the Kettleman Hills curtailment agreement. The apex of the structure is located about midway between these two wells. No. 1 Huffman is located on fee acreage outside the area covered by the Kettleman Hills agreement and since it is not subject to the existing agreement it can continue on production free from all restraint except the possible but not probable issuance of a temporary injunction which may be asked by the State of California upon the resumption of efforts to enforce the gas conservation law which comes up again within the next 15 days. This new well proves up a portion of the 160-acre King lease held by the Amerada Petroleum Corp. as the King and Huffman properties are continuous at one point and bear the same relationship to the structure.

No. 1 Huffman is the third well to be finished on fee acreage located outside the area covered by the Kettleman Hills agreement and three more are scheduled for completion before the close of the current year. These wells, together with others which will be drilled on fee acreage, complicates the Kettleman agreement as they are all draining government leases held by various operators who are prevented by the Department of Interior from drilling necessary offsets to prevent excessive drainage. The north dome of Kettleman Hills which now measures more than 10 miles from east to west along the axis is by far the largest major structure in California with the outer limits of production not yet definitely established in any direction except at one point on the south flank where a test well was drilled by the Petroleum Securities in Section 14-22-17. This apparent marker has not been abandoned but was suspended in January of this year at 8,310 feet because it appeared that it would require a 10,000-foot hole before the productive Temblor could be reached. It was suspended with the bit in the Brown shale which overlies the productive zone and for this reason it would not be at all surprising if the Petroleum Securities went back into the hole again in the not far distant future although this work may be held back until after the conclusion of work on the Felix property in Section 35.

State Production Up

State production, following a decline for two consecutive weeks, was back up again this week due principally to the completion of two exceptionally big wells at Elwood and a number of completions in the Playa Del Rey Field of Los Angeles Basin. The Pacific Western Oil Co. started off the week by completing well No. 7 on Tideland permit No. 92 flowing 4,100 bbls. of clean 36.2 gravity oil per day from 3,514 feet. This new well, located approximately 700 feet out beyond the shore line on a specially constructed pier, in the Elwood Field of Santa Barbara County, would undoubtedly have established a potential production of approximately 10,000 bbls. per day if allowed to do so. The Pacific Western has been obliged to make up an excess production, however, and this well was subsequently beaned back to 2,400 bbls. per day shortly after completion notwithstanding that it is customary to establish potential productions of new wells on a five-day flow test.

The Barnsdall and Rio Grande, jointly operating acreage and tideland leases at Elwood, followed suit shortly after completion of the Pacific Western's new well by bringing in well No. 4 on Tideland permit No. 88 flowing 5,000 bbls. per day from 3,395 feet. This new well, situated approximately 500 feet out beyond the tideline at the end of a specially constructed pier, made 11,702 bbls. of clean 37.1 gravity oil and approximately 15,000,000 feet of natural gas three days after completion. This is by far the largest producer in the State of California at the present time and the maximum would probably have exceeded this figure if the Barnsdall and Rio Grande had not started beaning back beginning Thursday morning. The customary five-day flow test expired this morning, Saturday, and both the Pacific Western and Barnsdall-Rio Grande interests are making concerted efforts to reduce production in conformity with the state-wide curtailment agreement. There are several other potential producers nearing completion in the prolific Elwood Field of Santa Barbara County and a check indicates the probability that the Bankline Oil Co.'s well No. 4 and the Elwood Exploration Co.'s well No. 5 will be tanking oil within the next 15 days. Several new wells are also being started in this field but they are not expected to prove disturbing factors as operators are obligated to keep field production within the prescribed allowable, which at the present time is a pegged figure approximating 41,000 bbls. per day. The recent proposal to restrict drilling operations was unsuccessful because of the necessity of some operators to drill offsets to wells already on production. It is thought probable, however, that drilling operations will be kept down to a minimum because operators will not gain any advantage by establishing a high potential in view of the fact that they will only be permitted to produce their prescribed allowable maximum.

Playa Del Rey

Considerable new development work is getting under way in the Playa Del Rey Field of Los Angeles Basin and it will probably be some time yet before the drilling peak is reached. During the early stages of development drilling operations in this field were centered in the area adjacent to the Ohio's discovery well. Drilling operations at the present time, however, are extending southward and as they approach the apex of the structure production should be more satisfactory. The southern part of the field adjacent to the Union Oil Co.'s property is receiving considerable attention and developments indicate that drilling operations will be centered in this locality and radiate in all directions from this point. Operators were rather slow to appreciate the possibilities of the southern or eastern end of the structure, although some of the delay in getting into this end of the field was due to a reluctance to drill too far away from the Ohio's discovery well. During the past week development work has become more general and probably within the next 15 days the gap will be entirely closed.

The Knickerbocker Petroleum Co. successfully finished its No. 1 Venice during the early part of the week and this new well, finished in the deep Recreation zone at 6,158 feet, is producing 2,140 bbls. of clean 23.6 gravity oil and 4,000,000 feet of natural gas per day. The Nelson Petroleum Co. also finished a satisfactory completion this week when No. 1 Venice was completed flowing 2,000 bbls. of 23.7 gravity oil and approximately 1,200,000 feet of natural gas per day. This well, bottomed at 6,145 feet, topped the schist at 6,144 feet, encountered the conglomerate at 6,106 feet and was finished with a 4¾-inch liner carrying 198 feet of perforated. B. C. Morrison brought in his No. 2 Venice several days ago flowing 500 bbls. per day from 4,049 feet but this well subsequently built up and it is at the present time doing 1,125 bbls. of 23.7 gravity oil and 1,600,000 feet of natural gas, which is averaging a little better than two gallons of natural gasoline for each 1,000 feet of gas treated.

The George F. Getty Oil Co. finished its second well in the Playa Del Rey Field during the early part of the week, and, while the output of crude oil, 400 bbls. daily, is not especially high, crude oil production is expected to increase as soon as the production of natural gas declines. This well is producing approximately 6,000,000 feet of natural gas per day and it is the general consensus of opinion that production of crude will increase as soon as the gas head has been relieved. This well, incidentally, has the highest gas-oil ratio of any producer in the Playa Del Rey Field at the present time. This condition is rather unusual as wells at Playa Del Rey do not usually yield an excessive amount of natural gas. The only other well finished in this field up to the present time which has shown a higher gas-oil ratio than the new Getty well was the Mohawk Oil Co.'s well No. 1-0, which blew in doing 14,000,000 feet of natural gas per day during the course of a water test from 5,635 feet. This well was subsequently shut in, however, but may be on production again soon as preparations are being made to recomplete it. There are

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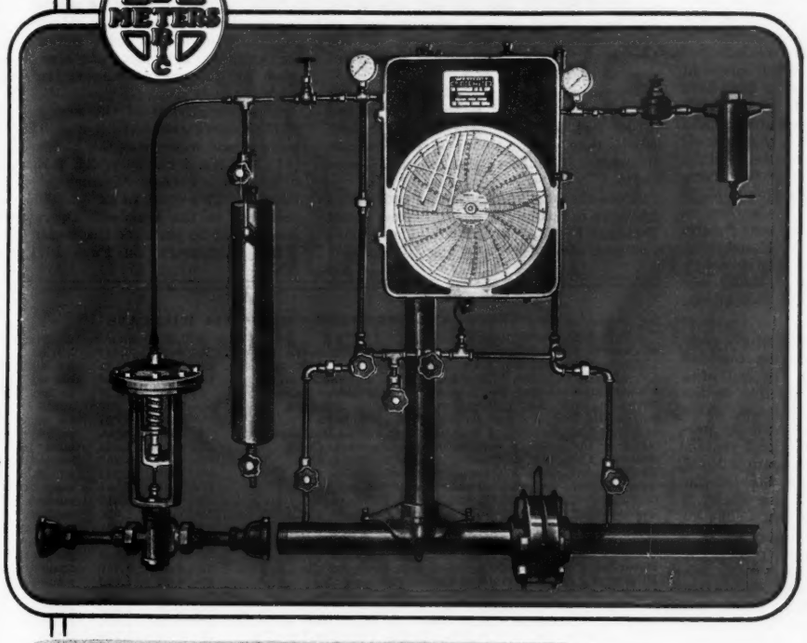

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quite a number of new wells scheduled for completion in the Playa Del Rey Field in the near future and the production of this district is consequently expected to register increased production later this month, although this peak is not expected to be reached until later in the year. The Union Oil Co. should complete its second well in this field within the next 10 days as preparations are being made to drill ahead following the landing of a string of 11¾-inch pipe at 3,725 feet. Nos. 2 and 3 on this lease are also expected to be early completions unless the company decides to carry them down into the lower zone and temporarily pass up the upper sand. The zone in which these wells are ultimately completed depends on the policy adopted by operators in the adjoining town lot area as wells on the townsite lease are being drilled for protection purposes only. The Barnsdall and Cypress Petroleum, jointly operating the Burks lease, will probably also be in a position to finish a new well shortly.

Long Beach

The outstanding completion in the Long Beach Field during the past week was the Cummings Oil Co.'s No. 1 Signal, which was returned to production doing approximately 5,000,000 feet of natural gas and about 750 bbls. of crude oil per day. No actual gauge is available as the well was shut in shortly after completion. This new producer, which was originally finished two weeks ago doing 375 bbls. per day from 7,043 feet, was redrilled and deepened to 7,100 feet, at which point it blew out several days ago while the crew was coming out of the hole. While blowing out, the well produced only gas but began making oil shortly after being brought under control. It is at the present time shut in but preparations are being made to put it on steady production. The Dabney Johnston Oil Co. added another new well to its list of producers when No. 43 Cerritos, located in the western end of the field, was brought in flowing 570 bbls. of 29.6 gravity oil per day from 6,699 feet, the hole having been finished with a 6⅝-inch liner carrying 1,397 feet of perforated. The Texas Company also increased its list of producers this week by recompleting No. 1 Harlow Kent pumping 610 bbls. of unusually clean 23.1 gravity oil per day from the shallow zone at 3,487 feet. The Hancock Oil Co.'s No. 20 Signal, which was bottomed at 5,932 feet and finished with a 6⅝-inch liner including 303 feet of perforated, failed to show sufficient kick to result in a natural flow and it was accordingly put on a compressor. This artificial stimulation was not entirely satisfactory, however, as it is only making 105 bbls. per day. The Star Petroleum's No. 2 Colby, a deep test being drilled in the Long Beach Field, has taken on a rather unfavorable outlook as a core at 7,785 feet reveals the existence of a gray water sand. P. L. Bixby's No. 2 Signal, another test well being drilled in the Long Beach Field, will probably be watched closely during the course of the next 60 or 90 days, as this well is an outpost located east of the Los Cerritos section of the field, approximately 1,000 feet beyond the nearest producer.

Midway-Sunset

Two wells were put on production out in the Maricopa Flat section of the Midway-Sunset Field during the past week and another potential producer is scheduled for completion within the next 10 days. The new wells finished in this area during the week were the Barnsdall's No 2 Hazelton and the Rio Grande's No. 1 Havenstrite, both of which were originally finished several months ago. The former was recompleted flowing 1,590 bbls. of 22.1 gravity oil per day from 3,450 feet, while the latter was returned to production flowing 410 bbls. of relatively clean 22.3 gravity oil. The new well scheduled for early completion in this field is the California Western Oil Co.'s No. 6 Havenstrite, which came in prematurely from 4,015 feet a few days ago and subsequently sanded up. It is being cleaned out at the present time and should be on production shortly as the oil string should be run in some time within the next few days. The Doyle Petroleum Co.'s No. 9 Son Crail in Section 8-11-23 and the Wellington Oil Co.'s No. 4 should also be finished in the near future. The Union Oil Co.'s No. 4 Houchin, a deep test being drilled in the Maricopa Flats, has reached a depth of 7,690 feet without logging any unusual indications.

Rincon

The Richfield Oil Co. successfully completed No. 4 Miley Hobson, a tideland drilling project located at the end of a pier 600 feet beyond the tideline in the Rincon Field of Ventura County. This new well registered an initial daily production of 350 bbls. of clean 28.2 gravity oil from 3,560 feet. The company's No. 3 Miley State, located inside the tideline on the land side of the Rincon Field, is being prepared for an early test as the bit penetrated a promising looking oil sand at 2,540 feet. The Valmont Oil Co. failed to secure a natural flow in its No. 1 Birdie Cline, a new well recently started in the Santa Barbara Mesa Field, and preparations are being made to put it on a compressor in the hope of developing commercial production. This well swabbed and flowed a small quantity of clean oil from 2,251 feet and it is not at all improbable that production may be secured upon installation of the compressor. This project is located east of the Santa Barbara Mesa Field, which proved such a dismal failure last year because of the absence of a sufficient amount of oil sand to sustain commercial production.

WORK IS STARTED IN DEEP TEST IN PROVED MUSKEGON FIELD

By Paul A. Elliott

MUSKEGON, Mich., Sept. 8.—Work was started this week on the first deep test in the proved Muskegon oil field by R. C. Steele, contractor for the Muskegon Deep Well Syndicate. The contract calls for completion of a satisfactory hole to a maximum of 5,200 feet for $16,000. If drilling is suspended at any depth less than the maximum by officials of the syndicate the contractor will receive $5 a foot, or a minimum of $5,000 for his work.

The No. 5 Herman Heinz well of the Muskegon Oil Corp., NE NE Section 8-10n-16w, Muskegon Township, will be deepened from its present total of 2,050 feet in the Dundee for the deep test. A standard 84-foot derrick and heavy rig has been moved from a near-by lease to drill the well. A fund of about $40,000 has been raised toward an authorized capital of $50,000.

Operators hope to strike a large gas flow in the Niagara formation at about 3,700 feet but will drill to 5,200 feet, where they expect to strike the Trenton limestone if unsuccessful at any lesser depth.

More than 1,500 bbls. initial production has been added to the record of the Mount Pleasant Field of central Michigan during the past two weeks. Of the 10 new producers making from 25 to 350 bbls. a day in the Dundee formation, 7 are in the so-called Leaton area several miles northwest of the old proved Mount Pleasant Field and only 3 are in the more completely developed area in Chippewa Township, Isabella County.

Another of the drilling wells in the newer Mount Pleasant area struck a large flow of gas in the Marshall formation, a wildcat in Presque Isle County was dry and abandoned, two small new oil producers were completed in Muskegon County, two old Dixie Oil Co. producers were abandoned and one of three drilling wildcats in Muskegon County was dry in the Dundee and will be abandoned.

This makes a total of 14 new producers in addition to the two old oil wells to be plugged and abandoned. Seven permits for wells on new locations also were issued by the state conservation department.

Most significant of the new producers in the Leaton area until it was drilled into bottom salt water was the Mellon-Pollock Oil Co.'s No. 1 Crowley, NE NE, Section 27-16n-4w, Vernon Township, Isabella County. This came in as a 350-bbl. initial producer in the Dundee. Operators are now trying to shut off the water after it

(Continued on Page 107)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well location—	S-T-R	Depth	Status
Union, No. 1 Orchard Dale, Los Angeles Co.	10- 3-11	4,475	sd. sh. drilling
Olympic Realty Corp., No. 1 Venice, Los Angeles Co.	14- 2-15	714	sd. sh. drilling
Burlingham Pet., No. 1 Compton, Los Angeles Co.	17- 3-13	4,490	suspended
Francis, Don, No. 1 Compton, Los Angeles Co.	8- 3-13	572	recemented
Carlyn, C. H., No. 1 Compton, Los Angeles Co.	9- 3-13	1,000	suspended
Central Oil Co., No. 1 Compton, Los Angeles Co.	28- 3-13	5,094	plug back
Combs, E., No. 1 Compton, Los Angeles Co.	16- 3-13	570	suspended
Guajome Oil Co., No. 1 El Nido, Los Angeles Co.	33- 3-14	rig	suspended
Cal. Ventura Oil Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	6,525	suspended
Cal. Ventura Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,396	cleaning out
Cal. Ventura Oil Co., No. 2 Hermosa, Los Angeles Co.	31- 3-14	mtl.	building rig
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14	4,665	suspended
Tri-State Oil Co., No. 1 Watts, Los Angeles Co.	12- 3-14	4,914	sd. sh. drilling
McKeon Drlg. Co., No. 1 Watts, Los Angeles Co.	1- 3-14	....	grading
Rio Grande Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	6,295	fishing
Cal Well Drlg. Co., No. 1 Dominguez, Los Angeles Co.	11- 4-13	8,500	cleaning out
Shell, No. 1 Van Nuys, Los Angeles Co.	19- 2-15	4,870	hd. sd. drilling
Rio Hondo Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	3,319	hd. sd. drilling
Bidart Oil Co., No. 1 Puente, Los Angeles Co.	15- 2-10	2,400	hd. sd. drilling
Bardeen Pet., No. 1 Puente, Los Angeles Co.	9- 2-10	4,410	br. sh. drilling
Keck & Hall, No. 1 Puente, Los Angeles Co.	32- 2- 8	1,120	gas—shut in
Marcel Pet. Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	2,900	br. sh. drilling
Celito Oil Co., No. 1 Monterey Park, Los Angeles Co.	25- 1-12	5,278	cleaning out
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	1,950	suspended
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	5,695	recemented
Union, No. 1 Coyote Sansinena, Los Angeles Co.	30- 2-10	4,809	set pipe
Western Gulf, No. 1 Brea Canyon, Los Angeles Co.	28- 2- 9	6,588	fishing
Lamona Oil Co., No. 1 Pomona, Los Angeles Co.	34- 1- 9	901	hd. sd. drilling
Graham & Loftus, No. 1 Coyote, Orange Co.	18- 3- 9	6,204	cleaning out
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	suspended
Hall, H. L., No. 1 Newport, Orange Co.	20- 6-10	790	suspended
Standard, No. 1 Newport, Orange Co.	26- 6-10	1,990	redrilling
Fidelity Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701	cleaning out
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,560	suspended
Imperial Valley Oil Co., No. 1 Brawley, Imperial Co.	32-11-10	3,000	hd. sd. drilling
McGregor Synd., No. 1 Del Mar, San Diego Co.	17-14- 3	1,265	cleaning out
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,430	hd. sd. drilling
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	2,422	gr. sd. drilling
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 8- 8	4,355	hd. sd. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,525	fishing
Girard & Grimes, No. 1 Corona, San Bernardino Co.	8- 2- 8	1,549	cleaning out
Western Gulf, No. 1 Santa Ana, Orange Co.	12- 3- 8	mtl.	idle

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well location—	S-T-R	Depth	Status
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	5,867	hd. sd. drilling
Universal Consd., No. 1 Pt. Conception, Santa Barbara Co.	30- 5-34	4,511	hd. sd. drilling
Prairie Oil Co., No. 1 Lompoc, Santa Barbara Co.	15- 7-35	5,082	hd. sd. drilling
Fields Gasoline Co., No. 1 Santa Maria, Santa Barbara Co.	8- 9-33	4,816	br. sh. drilling
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	855	surface pipe
Barnsdall, No. 1 Gato Ridge, Santa Barbara Co.	9- 8-32	3,278	sd. sh. drilling
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-33	mtl.	building rig
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	suspended
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	1,292	sd. sh. drilling
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	1,485	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	1,016	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	1,026	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,931	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	1,035	suspended
General Pet., No. 143 Goleta, Santa Barbara Co.	21- 4-28	1,040	suspended
Boles Oil Co., No. 140 Goleta, Santa Barbara Co.	22- 4-28	1,040	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	1,035	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	1,032	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	1,019	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	1,035	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	1,599	hd. sd. drilling
Caldwell Brown, No. 159 Goleta, Santa Barbara Co.	24- 4-29	1,040	suspended
Cochran, J. H., No. 1 Naples, Santa Barbara Co.	7- 4-29	3,181	sd. sh. drilling
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	5,470	sd. sh. drilling
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	4,404	cleaning out
Shell, No. 5 Oxnard, Ventura Co.	14- 2-20	3,070	sd. sh. drilling
Prairie Oil & Gas Co., No. 1 Ventura, Ventura Co.	30- 3-22	7,200	sd. sh. drilling
Rio Grande, No. 1 Lankershim, Ventura Co.	13- 4-19	2,000	redrilling
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
Pure Oil Co., No. 1 S. P. Canyon, Ventura Co.	15- 4-21	1,725	sd. sh. drilling
Superior Oil Co., No. 1 Sespe, Ventura Co.	14- 4-21	495	cleaning out
Lockwood Valley Oil Co., Well No. 1, Ventura Co.	32- 8-21	rig	suspended
Nordon Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	4,905	fishing
General Pet., No. 1 Belridge, Kern Co.	30-28-21	rig	rigging up
Richfield, No. 1 Belridge, Kern Co.	20-27-20	4,590	sd. sh. drilling
Rio Grande, No. 1 Belridge, Kern Co.	18-28-22	3,680	cleaning out
Shell, No. 1 Belridge, Kern Co.	25-28-20	450	sd. drilling
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	5,370	sd. sh. drilling
Pet. Sec., No. 1 Edison, Kern Co.	14-29-29	2,560	hd. sd. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,130	suspended
Sayre, F. M., No. 1 Edison, Kern Co.	5-30-29	4,220	suspended
Shell, No. 1 Semitropic, Kern Co.	17-27-23	5,930	sd. sh. drilling
Moran & DeCamp, No. 1 Mojave, Kern Co.	26-10-14	626	hd. sd. drilling
Bardeen, H. A., No. 1 San Emidio, Kern Co.	18-10-23	1,190	suspended
Bardeen, H. A., No. 2 San Emidio, Kern Co.	10-10-23	3,730	hd. sd. drilling
Stabler, W. W., No. 1 Commanche Pt., Kern Co.	4-11-18	2,040	redrilling
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	3,248	sd. sh. drilling
Wrenn, J., No. 1 Antelope Plains, Kern Co.	32-25-17	812	suspended
Richfield, No. 1 Kreyenhagen, Fresno Co.	33-22-16	3,511	abandoned
Ohio Oil Co., No. 1 Coalinga, Fresno Co.	8-21-15	4,093	sd. sh. drilling
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	....	location
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	7,390	suspended
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	4,019	sidetracking
Latin Amer. Pet., No. 1 Shandon, San Luis Obispo Co.	21-27-15	4,525	hd. sd. drilling
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	3,941	cleaning out
Potter, F. J., No. 1 Atascadero, San Luis Obispo Co.	24-28-12	rig	rigging up
Union, No. 1 King City, Monterey Co.	8-22- 8	3,250	suspended
Standard, No. 1 King City, Monterey Co.	23-22- 7	5,290	hd. sd. drilling
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	gas well
Friend & Figke, No. 1 Tulare Lake, Kings Co.	11-23-19	mtl.	building rig
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,338	suspended
Wellport Oil Co., No. 1 Devils Den, Kings Co.	9-24-17	3,940	suspended
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	4,306	hd. sd. drilling
Oakdale Oil Co., No. 1 Oakdale, San Joaquin Co.	3- 2-10	3,535	suspended
Orinda Pet., Well No. 1, Contra Costa Co.	32- 1- 3	690	sd. sh. drilling
White, Roy, No. 1 Pixley, Tulare Co.	8-23-26	4,022	suspended
Campbell Oil Co., No. 1 Porterville, Tulare Co.	22-22-27	rig	rigging up
Terra Bella Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	918	testing
Western Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	1,022	testing
Mills & Wilson, No. 1 Porterville, Tulare Co.	35-22-27	910	oil sand
Terra Bella Drlg. Co., No. 1 Porterville, Tulare Co.	34-22-27	1,220	abandoned
Terra Bella Drlg. Co., No. 2 Porterville, Tulare Co.	34-22-27	920	testing
Colton Drlg. Co., No. 1 Porterville, Tulare Co.	34-22-27	405	sd. drilling
Rayatt Oil Co., No. 1 Porterville, Tulare Co.	34-22-27	180	sd. drilling
Hallock, William, No. 1 Porterville, Tulare Co.	34-22-27	1,045	granite
Kern Pet. Co., No. 1 Porterville, Tulare Co.	34-22-27	mtl.	building rig
Larson Oil Co., No. 1 Porterville, Tulare Co.	11-23-27	780	sd. sh. drilling
Alexander, Ford, No. 1 Porterville, Tulare Co.	34-22-27	1,000	suspended
Lewis, Paul M., No. 1 Porterville, Tulare Co.	15-22-27	65	sd. drilling
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	688	hd. sd. drilling
Getty Oil Co., No. 1 Nigger Heaven, Yolo Co.	23-12- 3	425	sd. drilling

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Kenton Field Shows Most Development

Gas Wells Take the Lead. Nineteen Completions in Central Ohio Field. Dupo Field, Southern Illinois, Gets 75-Bbl. Well

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Sept. 8.—No division of the Central West Field shows any activity but the central Ohio area where gas is sought for. Even Michigan is not showing its usual activity for oil, but numerous gas wells will be drilled in parts of the Mount Pleasant Field of Isabella County, now that a survey is being made for a gas line from the Bloomfield Township area to Mount Pleasant and the Leaton Field same county is showing some very nice gas producers and when the pipe line is completed the owners will realize an income from their wells. The old Lima Field of northwestern Ohio, Indiana and Illinois is showing few new drilling wells. Kentucky shows a slowing down of development work over the entire State but a number of wildcat ventures are being made in parts of Tennessee and most of them are looking for natural gas which is found in good volume in the St. Peter sand formation which lies below the upper and lower Sunnybrook, which are known as the Trenton limestone formation.

In the old Lima Field of northwestern Ohio, the Kenton Field of Hardin County shows the greatest development at this time, both oil and gas being found, but the gas wells take the lead. In Blanchard Township, of that county, Neely & Underwood's No. 1 on the Phoebe L. Gardner farm, Section 31, shows for 500,000 feet from the Trenton. Eagon and White's No. 1 on the Adam Strange farm, Section 14, Cessna Township, same county, is also a 500,000-foot gas well.

The Fremont Oil Syndicate is drilling a purely wildcat venture on the Mrs. Sarah Baskey farm, in Ballville Township, the contract work being done by Zeising Brothers of Genoa, Ohio. Dillon & Weed are drilling their second test on the D. C. Teft farm, Section 32, Monclova Township, Lucas County, a few miles out from Maumee. No. 1 on this farm, when completed a short time ago produced an initial of 50 bbls. from the Trenton, and several additional locations have been made that will be drilled in case the second attempt proves a commercial producer. Only a few wells were drilled near the town of Monclova back some years ago and present prospects are for quite an extension of the old Lima Field in Monclova Township. William Henry Russell of Cleveland, formerly a resident of Lima and an old timer in the oil game, visited the wells a few days ago and states that it looks like a new field, the oil being of the usual good Trenton Rock crude. His supposition is that larger wells will be found in that part of Lucas County.

An abandoned gas well, which had been plugged about 30 years ago, was in action for a short time the past week when workmen were excavating for a new pavement in West Market Space in Port Clinton, Ottawa County, Ohio. This well was originally owned by Peter Andrews who met his death by an explosion of gas at the well while he was attempting to test the pressure about 30 years ago. The well was then abandoned and recently a new street was laid out over this course. There was a small quantity of gas from the pipes when struck by the steam shovel, and the pipe was again plugged.

CENTRAL OHIO

Nineteen completions were reported since the last review of the Central Ohio Field, of which 4 were producers with an initial production of 94 bbls. of oil, 5 dry holes and 10 gas wells, while in new work under way there is a pickup of 31 locations and 21 wells started, a total of 52, which means additional activity in September.

In Ashland County, Mohican Township, Meltzer and others found a dry hole in No. 4 on the George W. Black farm, Section 33, from 790-821 feet. Six new locations were staked in the county and one well started drilling. Robinson and others found a very light gas well in No. 3 on the C. I. Sellers farm, Section 9, Lake Township, from 608-55 feet. I. E. O'Hail's second test on the Thomas Doup farm, Section 31, Hanover Township, is an average gas well from 2,825-30 feet.

In Medina County the Kemrow Co. is drilling a second test on the Frank Rhader farm, Section 4, Homer Township. Cameron and others are drilling on the E. and M. Cox, Lot 55, Westfield Township. Barnhart and others are drilling on the George Coleman farm, Section 8, Medina Township. In Chatham Township, J. R. Kommer's No. 4 J. A. Krugle farm, Section 18, was dry at 530 feet. Oko Oil & Gas Co.'s No. 32 Jess Vickers farm, Section 2, pumped 8 bbls. at 460 feet, and No. 26 L. W. Brinker farm, Section 10, owned by the same company pumped 5 bbls. at 344 feet.

In Holmes County, Hardy Township, East Ohio Gas Co.'s No. 2 Wayne Kendall, Lot 26, is reported good for 6 bbls. initial from 3,224-40 feet. In Richland Township the Ohio Fuel Gas Co.'s No. 1-5,186 Phoebe E. Bucy farm, Section 10, was a dry hole.

In Knox County, Brown Township, the Ohio Fuel Gas Co. has a gas well in No. 3-5,239 A. E. Ross farm, Lot 27, from 2,740-49 feet. H. E. Perkins has an average gas well on the D. T. Ross, Lot 21, at 2,721 feet. The Upham Gas Co. has a fair gas well in No. 5 Charles T. Beaman, Lot 7, at 2,704 feet, also a fair gas well in No. 2 Phillip Bross farm, Lot 37, all in Brown Township.

In Licking County only one completion was reported, a dry hole drilled by the Preston Oil Co. in No. 2-1,439 Melvin R. Stasel farm, Section 23, Madison Township. Settles Oil Co. is drilling on the David Wright farm, Section 3, Mary Ann Township.

In Muskingum County, Hopewell Township, the Hopewell Gas & Fuel Co.'s No. 5 James M. Sidle farm, Section 5, pumped 25 bbls. the first 24 hours from a depth of 3,320 feet.

In Athens County, Berne Township, Carpenter and Glazer found a well good for 1 bbl. in No. 11 on the H. D. and C. C. Curtis, fractional Section 33, in the Wolf Creek sand from 62-72 feet, but concluded to go deeper.

In Tuscarawas County, Washington Township, the Gordon Oil Co. has a nice gas well in a second test on the Loverige Meek farm, Lot 36, from 3,658-68 feet. Same company made a location for No. 4 on the Thomas B. and Rose Shearer farm, Lot 34, same township.

In Stark County the Ohio Brass Co. drilled a nice gas well on the Charles Oberlin farm, Section 6, Jackson Township, from 4,153-81 feet.

In Fairfield County the Ohio Fuel Gas Co. has a light gas well in No. 2-5,302 Cora L. Shaw farm, Section 5, Rush Creek Township, in the Berea sand at 738½ feet. Gas Producing Co. of Ohio is drilling on the Jacob Kramer farm, Section 24, Walnut Township, same county.

In Guernsey County, Wheeling Township, the Ohio Fuel Gas Co.'s No. 5-1,428 on the J. O. Alloway farm, Section 10, is reported at 50 bbls. initial at 3,538 feet. Jewell Oil Co. has a light gas well in No. 1 W. T. Lanning farm, Section 13, same township, at 3,531 feet. East Ohio Gas Co. is drilling No. 1 J. and R. Gard farm, Section 1, same township. Same company made a location for No. 2 J. and R. Gard farm, Section 5, Monroe Township, same county. Earnest Walters and others are drilling No. 1 Charles Messer farm, Section 20, Westland Township.

INDIANA

A few scattered wells were completed in the Indiana territory, the best producer being the Siosi Oil Corp.'s No. 1 well, 300 feet from the north line and 660 feet from the east line of the Thompson-Riggs farm lines, in the NW NE, Section 32, Prairie Creek Township, Vigo County, which had an initial of 60 bbls. at a depth of 2,222½ feet.

Hartman and others' second test on the Sylvester Swan, Section 28, Veale Township, Daviess County, a mile north of Sandy Hook, was dry at 1,289 feet.

Pike County reports a few completions. William Bell and others' test, 640 feet from the north line and 200 feet from the west line of the Robert A. Hyneman farm, in Clay Township, found the oil and gas together from a depth of 1,564-80 feet, showing 600,000 feet of gas and 20 bbls. of oil the first 24 hours. This lease is in Survey No. 9. In Washington Township, same county, three wells were completed, one of which was Charles C. Taliaferro, Jr.'s No. 2 on the Talliaferro farm, 900 feet from the south line and 200 feet from the west line of the lease, in the NW, Section 29, which showed an open flow of 3,000,000 feet of gas from 9 feet of sand at a total depth of 1,160 feet. C. E. Wommer's No. 3 well in the northwest corner of the James M. Thomas farm, NE, Section 30, was dry at 1,185 feet, and H. H. Risher found one of the same kind on the Charles Crow farm, Section 25. In Logan Township, same county, P. C. Andrews' No. 11 well, 650 feet from the south line and 194 feet from the east line of the A. Atkinson farm, NE, Section 23, pumped 3 bbls. Top of sand in this well was found at 1,315 feet, and

(Continued on Page 175)

RAINS ALLOW GENERAL RESUMPTION ON TESTS IN MIDDLE TENNESSEE

By George A. Whitney

RED BOILING SPRINGS, Tenn., Sept. 8.—The recent heavy rains enabled idle drilling rigs to resume and all rigs in middle Tennessee are reported busy. A number of prominent Kentucky operators have visited the State and scouts of a number of Oklahoma companies have been looking over the tier of northern counties where the Tennessee geological department has been making an exhaustive investigation of the formations overlying the Chattanooga black shale.

The three deep tests being drilled by interests supposed to be identified with the southeastern people are reported drilling with nothing of interest thus far encountered. One of these tests is 6 miles south of McMinnville; one at Sparta and the third on a large tract belonging to a coal company some 15 miles northeast of Livingston in Overton County.

Kirkwood and Campbell suceeded in drilling past a lost bit in their well near Cookville at 1,700 feet and were rewarded by a good gas flow at about 1,800 feet. No gauge could be obtained but gas men estimate the well large enough to supply Cookville, a city of 5,000 population. Geologists state the gas is in the St. Peter sandstone, though no cuttings have been obtained. Preparations are being made to shoot the well early next week.

Third in St. Peter

This is the third gas well in the St. Peter sandstone, the largest being at Carthage and another about 5 miles east of Livingston. If further drilling results in opening up other gas fields in this formation Tennessee may develop into an extensive producer. Structures are easily located because of the steep hills and intercropping beds.

T. J. Newell and associates of White Bluff are shut down in their No. 2 Oakley at 600 feet. They have considerable gas pressure and on the way down picked up several sands which showed more or less gas. Woods & Kenyon are drilling at about the same depth 1 mile north of their No. 1 Turner. No word could be obtained from Cheatham County where Ellis and Young of Owensboro are said to have contracted for a well 4½ miles northwest of Ashland City. This well will start in either the Fort Payne or New Providence shale, both of which are quite irregular and geological knowledge of structural conditions are next to impossible to obtain, hence, no forecast can be made as to the probabilities of the test.

J. H. McClurkin is drilling at 125 feet in his No. 1 J. L. Woods farm on Little Trace Creek, 3 miles southeast of Spivey in western Clay County. This is the first of three tests he will drill on structures worked out four years ago.

Pratt and associates have a rig cleaning out and deepening the shallow producers around Fox Springs on Obey River. Unusually large producers have rewarded these operators, several wells flowed as much as 500 bbls. or more daily and all are still yielding far above the average well after four years of operations.

The Cumberland Oil Co. of New York are setting the casing just below the Pencil Cave at 800 feet in its No. 2 Martin Garrett in Overton County. This well picked up a good showing of 41 gravity oil in a stray sand above the two Sunnybrooks, but after testing it the operators decided to continue to lower sands. No. 1 is a gas well at about 600 feet.

Rig in Macon County

Barney Calvert of Owensboro is said to be preparing to move in a rig to Lafayette in Macon County. He is completing a well for the Armistead Oil Co. in Hancock County, Kentucky, south of the Troy, Ind., pool. Mr. Armistead, the president, spent several days looking over his holdings in Tennessee.

In the southern section the Chattanooga Gas Co. has two rigs running in Lincoln County, under the supervision of J. W. Young of Fayetteville. Three unusually large gas wells at less than 300 feet have already been found. The company controls a large block of leases on half a dozen structures in Lincoln County.

J. V. McGuire of Tullahoma is drilling a gas well deeper in hopes of picking up a better pay in the St. Peter sandstone; this test is 1 mile north of Winchester. He is also drilling a well 12 miles north of Manchester.

Kennedy & Son are drilling deeper several wells in the old Tinsley Bottom Pool, and success has attended their efforts in every instance. When all the wells have been overhauled these operators expect to drill several new wells and will drill at least one test to the St. Peter sandstone.

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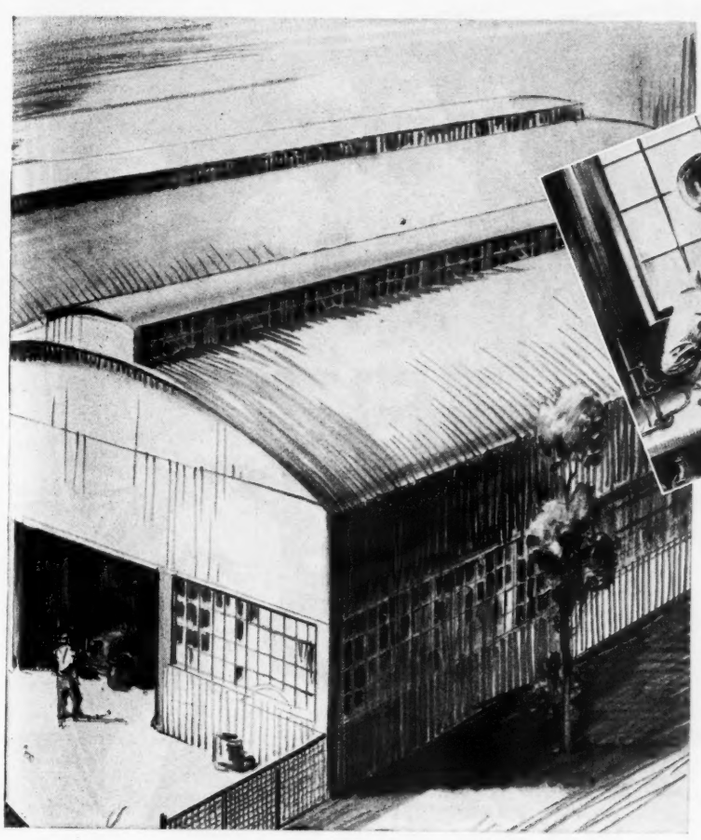

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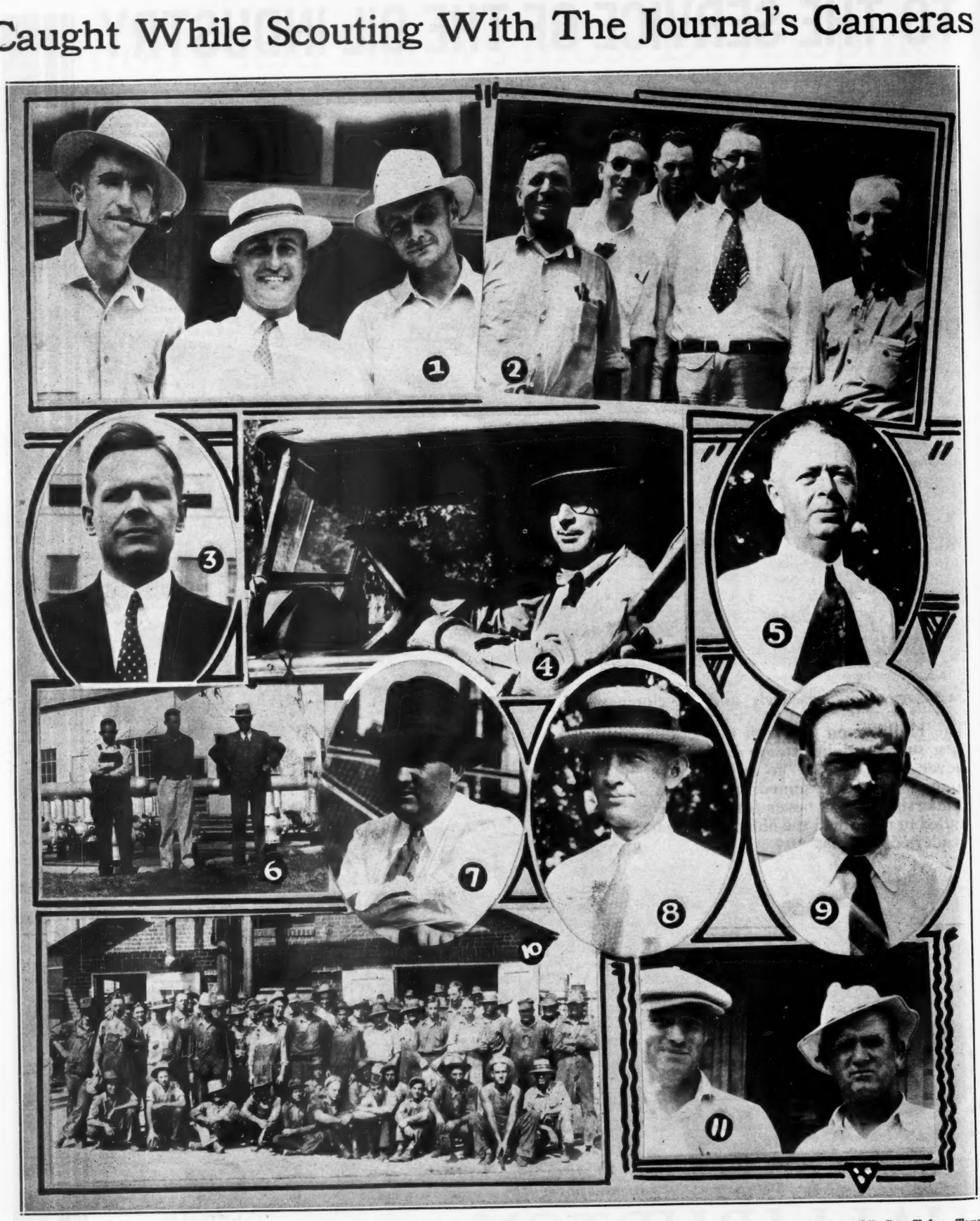


1—Fred Williams, geological department; W. M. Peck, assistant manager, land department, and R. P. Forrest, land department, Pure Oil Co., Tyler, Texas. 2—Left to right: E. S. Morris, civil engineer; B. W. Strickland, clerk; Carl Davis, production foreman; George Dugan, legal department, and V. Poskey, land department, Pure Oil Co., Van Field, East Central Texas. 3—Frank P. Parish, president, Missouri-Kansas Pipe Line Co. 4—S. L. Beach, superintendent, telephone and telegraph department, Pure Oil Co., Fort Worth, Texas. 5—F. C. Metzger, chief engineer, Sun Oil Co., Dallas. 6—W. R. Smyers, engineer; Glen West, operator, and F. G. Griffin, operator, Gulf Pipe Line Co. Saginaw Station, near Fort Worth, Texas. 7—S. G. Keller, superintendent, White Star Refining Co. plant, Wood River, Ill. 8—J. H. Pressley, manager land department, Sun Oil Co., Dallas, Texas. 9—H. L. Kerr, chief chemist, Simms Oil Co., Dallas, Texas. 10—Group of refinery workers of the Texas and Pacific Coal & Oil Co., Fort Worth. 11—W. P. Wood, production clerk, and A. E. Staten, construction foreman, Pure Oil Co., Van Field, East Central Texas.

May Open New Pool in Northern Ector

Penn and Atlantic Get Second Well in Ward County. Howard County Has Interesting Producer. Proration Allowances

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Sept. 8.—While company men and independent operators have been engrossed in curtailing the various producing areas over the State to coincide with the general proration plan of Texas, wildcat tests in different districts were showing up as discovery wells threatening to open up more pools to be considered later in regard to proration. Northern Ector County in the Permian Basin is one of the areas which looks as if it would introduce another pool for just such consideration.

Southern Crude Oil Purchasing Co.'s No. 1 Cowden in the NE Section 26, Block 43, about 19 miles north of the Penn Pool, Ector County, is now estimated good for between 300 and 500 bbls., producing 29.8 gravity oil. Various gas showings were made at 3,943, 4,032 and 4,075-80 feet, and a showing of oil from 4,063-65 feet before the main pay was picked up at 4,130-35 feet, filling the hole with oil and heading at intervals as drilling continued. Late this afternoon it was drilling ahead at 4,218 feet with no apparent increases in oil or gas, and the company intending to carry it about 35 feet deeper before shutting down to test.

Elevation of this test is 3,050 feet making a datum minus around 1,080-85 feet. Fuhrman Petroleum Co.'s No. 1 Ford, about 16 miles to the northwest of the Southern Crude well, has an elevation of 3,186 feet, making a datum minus of 876-82 feet. The big gas was found from 4,062-68 feet in this test which sets at 4,155 feet still making about 26,000,000 feet of gas. It is located in Section 16, Block A-43, Andrews County.

Deep Rock Oil Co.'s No. 1 King, a producer in the Deep Rock or Ogden Pool, 6 miles north of the Fuhrman gasser, in Andrews County, has an elevation of 3,196 feet, making a datum minus of 1,044 feet. It topped the pay at 4,240-70 feet.

The Southern Crude Oil Purchasing Co. has several sections around its test in northern Ector, and the rest of the acreage is considerably cut up, with many companies and several independents holding nearby leases. Much royalty has changed hands during the past week, but since the well has not increased in production trading has taken a slump, many holding off to see just what will eventuate before they pay the high prices asked.

WEST TEXAS PRODUCTION
Week Ending September 6

County—	No. wells	Bbls.
Andrews	2	137
Crane	363	30,825
Crockett	49	1,811
Ector	64	6,145
Fisher	8	1,730
Garza	5	none
Howard-Glasscock	524	22,785
Irion	5	145
Jones	73	1,315
Loving	25	1,695
Mitchell	147	2,153
Pecos	492	107,995
Reagan	253	21,940
Runnels	3	11
Scurry	5	10
Taylor	3	75
Upton	251	7,425
Ward	34	2,840
Winkler	596	68,000
Total production this week		277,037
Total production last week		281,509
Decrease		4,472

Ward County Well

Penn and Atlantic Oil Producing Co.'s No. 1-B Bennett, 990 feet from the northwest and 2,310 feet from the northeast of Section 16, Block 34, H.&T.C. Survey, Ward County, is shut down at 2,607 feet to be completed at this depth after tubing is run. It is flowing by heads from pay topped at 2,357 feet, and will make the second well for this area which was opened about a year ago by the discovery of No. 1 Bennett by Penn and Atlantic.

Howard County Test

Another well which attracted attention in West Texas this week was the Magnolia Petroleum Co.'s No. 1 Kelly-Chalk in the NE NW, Section 124, Block 29, W.&&N.W. Survey, in the heart of the shallow sweet oil producing pool on the east side of the Howard County fields. The well was formerly completed in the shallow 1,200-foot pay for a 16-bbl. well in 1927, but this week it topped the deeper pay at 2,885 feet and was shut down for orders at 2,990 feet with a hole full of oil bringing more possibilities to this side of the field which was put under proration last week with the deep producing areas to the west.

Proration Allowances

The proration period from September 1 to 15 for Howard-Glasscock Counties shows pipe line nominations to be 22,000 bbls. daily by the seven pipe line companies serving the fields. The 1,300 and 1,800-foot pay horizons are to get 12-bbl. allowances plus .129 per cent of the difference between the potential and margin. The 2,200, 2,500 and 3,000-foot pay horizons are to get 50-bbl. allowances per well plus .129 potential allowance. There are 287 wells producing from the 1,300 and 1,800-foot pays, 82 producing from the 2,200-foot pay, 151 in the 2,500-foot pay and 88 in the 3,000-foot horizon. Total production for the Howard-Glasscock County pools since proration went into effect almost two years ago, is 19,822,830 bbls. Runs in August dropped to 397,752 bbls., almost a 50 per cent drop compared to the July runs.

The proration schedule for Winkler County has been changed to a period of 30 days instead of 15-day periods as has been the custom since proration was put into effect in that pool over two years ago. This is due to practically all of the production classified as "settled," and the pool changing very little from period to period. There are 561 producing wells in the county, with Atlantic Oil Producing Co. and Maxwell's No. 1 Leck, the three-quarter mile southern extension of the Leck Pool, gauging far above any other well in the county. It has a rated potential production of 12,240 bbls. per day on official test, but has been given an allowance of only 3,

(Continued on Page 73)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended September 8

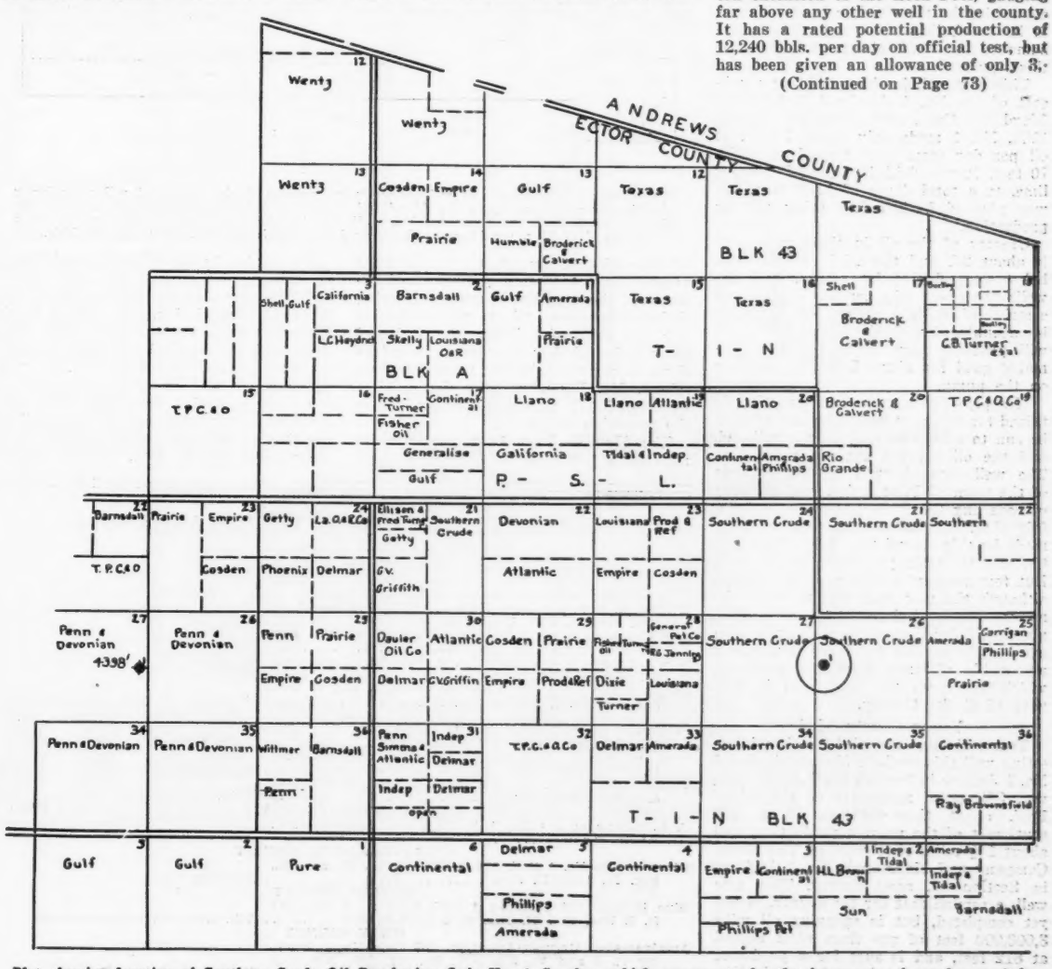
ANDREWS COUNTY

Company, well, farm name, section and block—	Remarks—
Deep Rock Oil Co. et al's No. 1 Mathis, 900 ft. from S and W. Sec. 4, Blk. A-46, Public School Land	Shot 150 qts. 4,168-4,232 ft.; swabbed 100 bbls., swabbing dry; total depth 5,088 ft.
Deep Rock Oil Co.'s No. 1 Miles, 900 ft. S. 1,650 ft. E of NW cor., Sec. 22, Blk. A-46, School Land	Shut down 4,765 ft.
Fuhrman Pet. Corp.'s No. 1 Ford, 440 ft. from S and 2,200 ft. from W of Sec. 16, Blk. A-43, Public School Land	Drlg. 4,145 ft.
Deep Rock Oil Co. et al's No. 1 King, 330 ft. from N and 2,310 ft. from E, Sec. 11, Blk. A-46	Top pay 4,335 ft.; flows every 4 days; temporarily abandoned; total depth 4,454 ft.
Maer & Staniforth's No. 1 Meador, C SW, Sec. 8, Blk. A-41	Drlg. 4,160 ft.
R. R. Penn's No. 1 Wilson, C, Sec., 20, Blk. A-37, School Land	Shut down 4,775 ft.; makes small flow from 3,085 ft. every 2 or 3 days.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft.

(Continued on Page 112)



Plat showing location of Southern Crude Oil Purchasing Co.'s No. 1 Cowden, which appears to be the forerunner of another pool in Ector County. It is about midway between the Penn Pool, southern Ector County and the Ogden Pool in Andrews County.

Wildcat in Southern Cooke County

Young County Semiwildcat Spraying Oil. Coleman County Well Flowing by Heads. Progress of Proration Movement

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Sept. 8.—The 4,850-bbl. per day decrease in the Panhandle district was no doubt greatly influenced by proration which is now in effect in the district, the first order having been issued by Umpire H. J. Corcoran on September 2. Several problems have yet to be worked out in regard to proration in this district but a co-operative spirit seems to prevail among the independents and companies operating in this district, and the small number of locations made this week, coupled with but few completions, bolsters up the idea that proration will gradually work out as planned for the Panhandle.

Shoup Brothers' No. 1 Aldons, 410 feet from the north and 330 feet from the east lines of Section 96, Block 16, H.&G.N. Survey, Collingsworth County, which created considerable interest several weeks ago when it encountered an oil and gas showing, was abandoned this week at a total depth of 3,155 feet precluding this area from getting any further play at the present time, and cutting down interest in the area.

Wildcat Discovery in Cooke

The Wichita Falls district was stimulated this week by a wildcat discovery in southern Cooke County, by Lloyd Oil Corp.'s No. 2 Jacobs in the Strickland Survey, topping a soft sand at 1,534-46 feet and a saturated lime from 1,546-53 feet where the well was shut down for erection of storage and possible pipe line connection by the Sinclair Pipe Line Co. to its trunk line which runs from Oklahoma to the Gulf, about 19 miles from this new well.

This new well is about 600 feet northeast of the No. 1 Jacobs drilled by the Lloyd Oil Corp. and completed May 6, 1930. No. 1 made only about 7 bbls. of oil per day from sand topped at 1,562-70 feet. It was drilled to the Ellenberger lime, to a total depth of 1,629 feet, but was plugged back before being put on production.

Gravity of the oil in these two wells is about 25, and the oil is sweet. Both holes were drilled by rotary, and the wells are cased with surface casing and a string of 6⅝-inch casing. But little gas is encountered with the oil, and the well will probably have to be pumped, estimated good for about 250 bbls. per day on the pump.

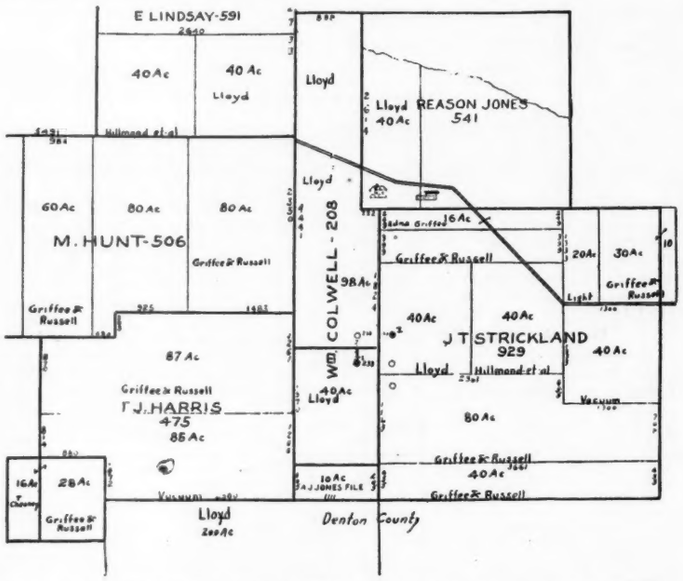
If a pipe line connection cannot be obtained for this new well, a small line may be run to a loading rack on the railroad, and the oil shipped out via tank cars. The wells are about 5 miles northwest of the town of Pilot Point, and the area surrounding the wells has come in for a fair sized play since the good showing made by this second test. The Simms Oil Co. was the main purchaser in the area. But few companies own near-by acreage, although the new well will no doubt be responsible for independents and companies fortifying themselves with such acreage if it is possible to obtain it within a reasonable distance from the producer, which opens up the first pool in this part of Cooke County.

Young County Find

Young County recorded another interesting well this week in Maer and others' No. 1 Jeffrey in Section 53, T.E.&L. Survey, 3¾ miles northwest of the Riggs Pool, about three-quarters of a mile southwest of the nearest production, and about 1½ miles northwest of The Texas Company and McKanna's No. 1 Jefferys in Section 42, same survey. This new well, a semiwildcat for the county, is not yet completed, but is spraying oil with 3,000,000 feet of gas from sand topped at 812 feet, and is sure for a producer, proving up more territory for production in this area.

David Donoghue, technical advisor of the General Proration Committee of Texas, has mailed requests to all crude purchasers of the Wichita Falls district asking for their co-operation in naming their nominations from this district for the next 30, 60 or 90 days or whatever period is convenient. He asks for an estimate of daily requirements from Archer, Baylor, Cooke, Clay, Foard, Montague, Wichita and Wilbarger Counties. The committee is anxious to have the operators and purchasers handle the proration of this district by themselves. At the present time operators are exercised because of the pipe line companies cutting their nominations and are threatening to cite the companies before the Railroad Commission if they do not take nominations as requested by the proration committee. Mr. Donoghue says the problem resolved itself into equalization under the proration order.

The Humble Pipe Line Co. cuts its runs 37½ per cent in Archer, Wilbarger, Wichita and north Young County, and the Texas Pipe Line Co. cuts its runs 27 per cent in Archer, Clay, Cooke, Wilbarger and north Young County, both of these cuts being below the proration allowances for the district. The two companies are taking all the production from the marginal 6-bbl. wells, but are cutting all other wells as per the above amounts. The Texas Pipe Line Co. ran 18,000 bbls. from the district in August, daily, but will cut to 15,000 bbls. for September.



Plat showing location of two wildcat wells in southern Cooke County, 5 miles northwest of Pilot Point, belonging to the Lloyd Oil Corp. No. 1 Jacobs, the first well, was completed May 6, 1930, for about a 7-bbl. well, but No. 2 Jacobs which came in this week swabbed 15 bbls. per hour the first four hours and looks good for about 250 bbls.

Production in the West Central Texas or Ranger district has been cut to 52,000 bbls. per day by order of the State Railroad Commission. The Riggs Pool, Young County, allowance is 2,500 bbls. daily with the remainder of the allowance prorated throughout the district. An umpire's gauge will be used after September 15 in prorating the wells and leases. Only necessary wells are to be drilled in the district, with the umpire passing upon the necessity of the well. All wells below the 2,000-foot pay will have an exemption of 12 bbls. per well. The umpire will make necessary adjustments where wells show much water.

Young Brothers, who own a producing lease in the Riggs Pool, Young County, petitioned the Railroad Commission to have the Continental Oil Co. extend its pipe line to their lease, but later recalled their petition in view of the fact that the Primrose Refining Co. would lay a 2-inch line to a loading rack on the Wichita Falls & Southern Railroad, 5 miles north of New Castle. Primrose contracted for the oil from the Young Brothers' lease.

NORTH TEXAS PRODUCTION
Week ending September 6

Panhandle District—	Bbls.
Carson County	8,340
Hutchinson County	19,975
Gray County	67,022
Moore County	450
Potter County	59
Wheeler County	695
Total this week	96,541
Total last week	101,391
Decrease	4,850
Wichita Falls District—	
Archer County	16,080
Baylor County	890
Clay County	680
Cooke County	3,060
Foard County	180
Jack County	2,460
Haskell County	55
Montague County	6,735
Throckmorton County	736
Wilbarger County	22,065
Wichita County	25,025
Young County	14,400
Total this week	92,366
Total last week	92,808
Decrease	442
Ranger District—	
Brown County	5,857
Callahan County	3,125
Coleman County	2,825
Comanche County	1,135
Palo Pinto County	513
Eastland County	4,340
Shackelford County	6,740
Stephens County	5,531
Total this week	30,066
Total last week	30,878
Decrease	812

Coleman County Play

The Arcadia Refining Co. created more interest in Coleman County this week than has been shown in the county for several months. The company's No. 1 Golson, in the I. K. Harris Survey, No. 164, 1 mile south of Burkett, encountered the Cross Cut sand at 1,576 feet and at a total depth of 1,576½ feet put 164 bbls. of 43 gravity oil in the tanks on a 12-hour gauge ending 7 a.m. Thursday. It has very little gas and flows by heads every 45 minutes. The well is three-quarters of a mile southwest of the Arcadia Refining Co.'s No. 1 Burns and Prairie and Arcadia's No. 1 Keller, both of which were recently completed as gas wells for 2,225,000 feet with 530 pounds rock pressure, and each drilled through the sand which was 12 feet thick.

The most promising acreage near the well appears to be in Blocks 11 and 12 of the A. White Survey No. 161. The Texas Company owns 100 acres in an offset lease which looks exceedingly good since this new discovery. Recent acreage sales near the well have run as high as $100 per acre, with several other leases at $25 per acre.

The Prairie Pipe Line Co. and Humble Pipe Line Co., in keeping with the State proration law, have refused to connect with the well, which will act to retard further drilling in the area for the present time. The owners are erecting 2,000 bbls. storage, and will continue to produce the well for the present.

The Texas Pacific Coal & Oil Co.'s

(Continued on Page 112)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending September 8

Company, well, farm name, section and block—	Remarks—
CARSON COUNTY	
Empire G. & F. Co.'s No. 1 Sims, 2,310 ft. N, 990 ft. E, N½, Sec. 12, Blk. 7, I.&G.N. Sur.	Location.
North American Oil Co.'s No. 1 Burnett, C NW, Sec. 97, Blk. 4, I.&G.N. Sur.	Drlg. 1,700 ft.
North American Oil Co.'s No. 1 Burnett, C SE, Sec. 98, Blk. 4, I.&G.N. Sur.	Drlg. 1,000 ft.
Reiger & Steckoll's No. 1 Martin, 330 ft. N and W, SW, Sec. 90, Blk. 7, I.&G.N. Sur.	12,000,000 ft. gas 2,815-2,910 ft.; U.R. 6-in. csg. 3,038 ft.
Shamrock O. & G. Co.'s No. 1 Duncan, 330 ft. S and W, NE, Sec. 5, Blk. 7, I.&G.N. Sur.	Drlg. 3,330 ft.
Sweeney et al's No. 1 Locke, 164 ft. N and W 40-ac. tr. along R.R. in Sec. 57, Blk. 7, I.&G.N. Sur.	S.D. 1,000 ft.
Texas Interstate P. L. Co.'s No. 1 Burnett, C SW, Sec. 6, Blk 5, B.&B. Sur.	Drlg. 2,650 ft.
CHILDRESS COUNTY	
C. L. Sloane et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.
COLLINGSWORTH COUNTY	
Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec 102, Blk. 21, H.&G.N. Sur.	Building rig.
DONLEY COUNTY	
Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. N line, 985 ft. E line, Sec. 22, Blk. E, D.&P.R.R. Sur.	T.D. 3,006 ft.; contract depth.
GRAY COUNTY	
Amalgamated German-American Oil Co.'s No. 1 Webb, 330 ft. S and W, E½ NW, Sec. 12, Blk. A-9, H.& G.N. Sur.	Drlg. 1,900 ft.

(Continued on Page 114)

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Good Oil Showing in Rusk County Test

Reported to Be From Woodbine Sand Although Some Think It May Be From Blossom. Drill Stem Test Shows 38 Gravity Crude

By L. E. Bredberg

FORT WORTH, Tex., Sept. 8.—After lying in a semidormant state for three or four months East Central Texas again assumed a tense attitude with many royalty buyers, independent operators and company land men flocking to the area surrounding Henderson, in Rusk County, near which C. M. Joiner's No. 3 Bradford in the northern part of the Juan Ximenes Survey encountered a good showing of oil, reported to be from the Woodbine sand, although some are of the opinion it is coming from the Blossom sand.

This test lies almost directly between two other tests drilled by the owner, but the first one of these tests was abandoned at 1,098 feet and the second completed as dry in June, 1930, at 2,518 feet in black shale. Neither well went to a sufficient depth to test the sand.

A drill stem test was made at 3,594 feet, 38.0 gravity oil showing up on this third test, giving cause for the revival of interest in this district, especially in this particular area which is practically unleased by individuals or companies. Mr. Joiner has about 1,000 acres under lease around the well, and the Lloyd Oil Corp. has a few small leases, but outside of these the surrounding acreage has not been in demand up to the present time.

Henderson, the county seat of Rusk County, about 9 miles southeast of the Joiner test, will be new headquarters for those who have gone back into the district to watch that area, although Tyler, in Smith County, is not far from the test, and, as many companies now have district offices there, most of the work will be carried on from that place.

While the Joiner test created new interest for the district, tests northeast of the Van Unit Plan, Van Zandt County, were also bringing attention to the pool and the extension acreage which has been proven up by several producers within the past few weeks. The last derrick to be built on acreage lying between the pool in the unit plan and the Pruitt or Carroll district, which now has four producers, belongs to Cranfill & Germany and is located 137 feet from the north and 50 feet from the west of an excess strip said to exist on the west side of the O. L. and L. L. Swain 43.8-acre tract. Three other derricks are standing in this area, with one well, Anderson's No. 1 Sanger, 150 feet from the north and west of Humble Oil & Refining Co.'s Sanger lease in the John Walling Survey, is about due for completion, now standing shut down at 2,297 feet after showing a good core of saturated sand.

The Pure Oil Co. is about ready to spud in its test on a north offset location to the Anderson test. The Shell Petroleum Corp. is also ready to spud on a diagonal northwest location on the York farm, and Cranfill & Germany's derrick is about one-quarter of a mile to the west. Anderson and others' No. 1 York is a diagonal northwest offset to Cranfill & Germany's location.

On the far western side of the Van Pool, Kolp and others' No. 1 Matthews is shut down at 3,637 feet. It topped the Pecan Gap chalk from 2,085-2,190 feet, and encountered the second chalk at 3,072 feet. Elevation of the test is 509 feet. Chances for a producer in this test look rather slim at present. It is approximately 2 miles west of the nearest producer.

The Texas Company's No. 2 Carter, 150 feet from the south and 300 feet from the west of a 171-acre farm in the William Daniel Survey, in the Carroll district, is shut down at 2,934 feet with no sand and no shows having been encountered. The same company's No. 1 Carter, an offset well topped the Woodbine sand at 2,870 feet and was completed for a good well at 2,938 feet, and as the elevations are almost identical, it looks as if this second test on the Carter lease, is to be dry.

Hill and Hill, who had erected a derrick and moved in material for a test on a location between Pure Oil Co.'s No. 1 Gin Lot producer and the same company's No. 2 Cannon, in the heart of the Van Unit Plan, have sold out to the companies operating under the unit plan, and this location will be drilled later by the Pure Oil Co.

The casinghead gasoline plant of the Pure Oil Co. on the Peters lease in the Nacogdoches County School Lands Survey is now ready for operation, but the company continues to construct more gathering lines throughout the field intending to prevent any waste of gas from the wells.

J. C. Fore of Oklahoma has taken a 3,500-acre block east of Myrtle Springs in the Joseph Saligna and William Surveys in Van Zandt County paying $1.50 per acre and agreeing to drill a well to 3,500 feet, the well to be started by December 1, 1930.

EAST CENTRAL TEXAS COMPLETIONS
Week Ending September 6

Delta County

Hazell Cutrie Oil Co.'s No. 1 Irvin, dry and abandoned, total depth 3,060 feet.

Van Zandt County

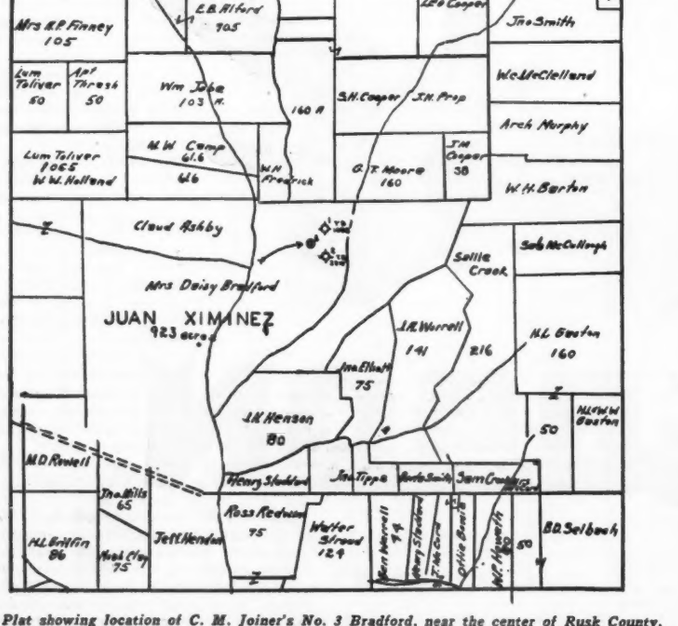
Humble Oil & Refining Co.'s No. 2 Ruth Starr Blake, top Woodbine sand 2,754 feet, initial production 101 bbls., total depth 2,917 feet. Pure Oil Co.'s No. 1 McMahon, initial production 100 bbls. on choke, total depth 2,942 feet. Same company's No. 3 M. R. Bolin, initial production 178 bbls. on ten-sixty-fourths-inch choke, total depth 2,927 feet. Same company's No. 4 A. D. Clark, initial production 205 bbls. on sixteen-sixty-fourths-inch choke, total depth 2,931 feet. Shell Petroleum Corp.'s No. 2 I. P. Tunnell, (recompleted) initial production 268 bbls. on ten-sixty-fourths-inch choke, total depth 2,937 feet.

Shelby County

Chafferal Oil Co.'s No. 2 Holt, dry and abandoned, total depth 3,097 feet.

Daily average production of the pools in the East Central Texas area for the week ending September 6 follows:

EAST CENTRAL TEXAS	
Boggy Creek	3,842
Cedar Creek	40
Currie	315
Hill County	25
Mexia	4,174
Minerva	545
Nigger Creek	140
Powell	5,348
Richland	115
Thrall	41
Van	25,508
Wortham	655
Total East Central Texas	40,758
Week ending August 30	39,562
Increase	1,196



Plat showing location of C. M. Joiner's No. 3 Bradford, near the center of Rusk County, 6 miles northwest of the town of Henderson. The test is shut down at 3,594 feet waiting on casing, after a drill stem test revealed a good showing of 38 gravity oil from sand generally believed to be the Woodbine.

EAST CENTRAL TEXAS WILDCATS

Week Ending September 8

DELTA COUNTY

C. A. Evert's No. 1 Smith, 300 ft. N and 150 ft. W of 38-ac. tract, 3 miles NE of Cooper in J. U. Ranfro Sur. ..... Now drlg. at 2,214 ft.
Keane-Goldman et al, one-half mile N of Cooper ..... Drlg. 3,315 ft.

FANNIN COUNTY

North American Pet. Co.'s No. 1 Allen, 700 ft. N and 150 ft. W in N. R. Broadfoot Sur., 9 miles N of Honeygrove ..... Shut down 1,400 ft.
E. M. Rogers' No. 1 McSwain, 300 ft. S and E of Michael Daly Sur., in Juana Telgando Sur., 1½ miles NE of Lomasco ..... Shut down 1,500 ft.

HENDERSON COUNTY

H. E. Ashburn et al's No. 1 T. E. Barry, center of Barry's 59-acre tract in A. York Sur. ..... Shut down 2,510 ft.
L. G. Bradstreet's No. 1 Julia J. Shaunessy, 2,776 ft. from N and 300 ft. from W of survey or farm, John Isard Sur. ..... Drlg. 3,645 ft.; Pecan Gap chalk 2,560-2,734 ft.
Chapman's No. 1 Cade, 1,662 ft. from N and 3,294 ft. from W of J. B. Dorsey Sur. ..... Fishing 3,199 ft.
George Pace et al's No. 1 Mrs. Sarah Anthony, 273 ft. N and 132 ft. W of SE cor. of S. Anthony 632-ac. tract, Jose W. Battvan Sur. ..... Shut down 2,730 ft.
Sunray Oil Co.'s No. 1 Davis, 600 ft. S and W of most easterly NE cor. of 164-ac. tract, Eldridge Harris Sur. ..... Austin chalk 3,540-3,998 ft.; coring shale 4,200 ft.

HUNT COUNTY

Branson et al's No. 1 West, 350 ft. N, 350 ft. W of W 60-ac. tract, Jas. Rooces Sur. ..... Shut down 2,770 ft.

KAUFMAN COUNTY

Shaw & Alexander's No. 1 Barrow, 2,360 ft. S and 200 ft. W of R. A. Terrell Sur., 4½ miles N or McCoy ..... Drlg. 2,800 ft.; Austin chalk 2,297-2,667 ft.

LAMAR COUNTY

Everett & Allen's No. 1 Guest, 250 ft. S and 2,046 ft. E of 100-ac. tract, L. Roberts Sur. ..... Spudded and shut down.

NAVARRO COUNTY

Killam & Phillips' No. 1 Wilson, 150 ft. S and E of 62½-ac. tract in Wm. Bridges Sur. ..... Shut down 3,006 ft.
Young et al's No. 1 Farmer, 700 ft. from S and 400 ft. from E of 110-ac. farm in F. Finley Sur. ..... Shut down 960 ft.

RAINS COUNTY

Everett & Morrison's No. 1 Franklin, 640 ft. from S and E of 75-ac. tract in John Christian Sur., 6 miles SE of Emory ..... Spudded and shut down.

RUSK COUNTY

Clem S. Clark's No. 1 Maude R. McCaffiln, 427 ft. from N. 166 ft. from W of farm, Ellie Blackburn Sur. ..... Drlg. 2,350 ft.; elevation 385 ft.
C. M. Joiner's No. 3 Bradford, Juan Ximenes Sur. ..... Testing; T. D. 3,592 ft.
Mass et al's No. 1 Mathews, 2,244 ft. from N, 4,356 ft. from E, Dalines Cartinas Sur. ..... Derrick down.

SMITH COUNTY

Owens & Sloan Oil Co.'s No. 1 Starnes, 846 ft. along W lines of John Waller Sur. from NE cor. of J. O. Dillard Sur., and 80 ft. E at right angles to W line of J. Waller Sur. ..... Top Pecan Gap 2,738 ft.; drlg. 2,812 ft.
Sun Oil Co.'s No. 1 D. McGehee, 500 ft. W and 250 ft. S of SW cor. of Mrs. Julia Phillips 55-ac. tract, Thomas Quevado Sur. ..... Rigging up; elevation 428 ft.
Thayer & Rogers' No. 1 Willingham, 150 ft. N and W of 14.5-ac. tract, Jacob Hernin Sur. ..... Drlg. 580 ft.

(Continued on Page 74)

Pipe Line Construction News

VENTURA TO ELWOOD CONTRACT IS AWARDED

LOS ANGELES, Calif., Sept. 6.—Contract on a $600,000 natural gas pipe line project to link Ventura with the Elwood oil fields north of Santa Barbara for the Southern Counties Gas Co. has been awarded to the Lang Transportation Co. and work will start at once, it was announced by Carl Summers, superintendent of the Ventura pipe line district.

The new 16-inch main will augment the present gas supply now being pumped from Ventura to Los Angeles through three lines, one a 12-inch line of the Southern Counties Gas Co., the second a 15-inch main of the Ventura Fuel Co., and the third a 12-inch artery of the Southern California Gas Co.

The project will be done in two sections, one starting just west of the Ventura River bridge and going to Carpinteria along the Coast, and the other beginning at Carpinteria and running to the terminus 3 miles west of Santa Barbara, where it will join another main from the Elwood Field.

The line, which will be 32.5 miles in length, will run along the coast parallel to the Rincon Highway, from Ventura to Seacliff, where it will go cross-country to Carpinteria. Passing the county line at Rincon Creek 3 miles inland from Carpinteria, it will follow the foothill road through Toro Canyon at the rear of the polo fields, and then along Valley Boulevard through Montecito to Sycamore Canyon.

From there the big main will pass to the north of Santa Barbara joining an 8-inch line from the Elwood Field at a point 3 miles west of the Channel City.

The project is scheduled to be completed by December 1.

HUMBLE LINE OUT OF PETTUS

HOUSTON, Tex., Sept. 8. — Humble Pipe Line Co. has started stringing pipe for its combination 8 and 6-inch screw pipe line being laid from Refugio to the new Pettus Field in Bee County. The line at Refugio will connect with the company's 8-inch line completed early in April extending from Refugio to Ingleside, Humble Oil & Refining Co.'s refinery. The new line is approximately 35 miles long and will have a capacity of 8,000 bbls. daily. It will provide the first pipe line outlet for the Pettus Field, which was opened early this year and which at present has a daily production between 6,000 and 7,000 bbls. daily choked in. The field, under a proration agreement for 60 days, will be limited to a maximum daily production of 7,950 bbls.

NEW CONTRACTING FIRM

Jones, Gaston & Brooks, Oklahoma City, Okla., is a new firm of pipe line contractors who have just secured a contract for building a 70-mile line at Lawrence, Kans., for the Cities Service Gas Co. The firm consists of Roy Jones who was formerly superintendent of construction for the Kelly-Dempsey Co.; P. S. Gaston, formerly engineer of the Cities Service Co.; and Mr. Brooks of Oklahoma City.

BOGGY CREEK GAS LINE

HOUSTON, Tex., Sept. 8. — Surveys have been completed by subsidiaries of the United Gas Co. of Houston for the laying of a 10-inch gas line from the Boggy Creek Field of Anderson County to Huntsville, a distance of approximately 70 miles. The proposed line is to be routed by way of Elkhart, Grapeland, Crockett and Trinity, which towns, it is planned, will be supplied by the line.

NATURAL GAS TURNED INTO LINE TO MOBILE

Natural gas has been turned into the Mobile line at Yazoo City, Miss., and is nearing Mobile, according to announcement made by Southern Natural Gas Corp.

Block gates have been placed every 10 miles on the line, and the tests are being made from one gate to the other. With the exception of a slight gap in the line south of Hattiesburg, Miss., the 202-mile transmission system, reaching from Yazoo City to Mobile, is completed.

The line will be packed with 25,000,000 feet of gas, and it is expected that Mobile will be the first city of the division to have natural gas available for distribution, which will be made by the Mobile Gas Co.

The line was begun on July 5 and has been completed within a period which is believed to set a construction record. The Mobile division was built by Natural Gas Engineering Corp., and the maximum number of men employed has been about 1,700. It passes through a territory of varying characteristics and crosses several streams which have presented interesting engineering problems, all of which have been satisfactorily solved. The Mobile division is one of the major extensions of the Southern Natural Gas Corp., being a part of the $15,000,000 program announced May 1. From this line natural gas will be made available for Laurel, Hattiesburg, Biloxi, Gulfport, Pass Christian and nearby towns in Mississippi; and Bogalusa, La., as well as Mobile, Ala.

It is expected that from this line extensions may be made to nearby cities and towns in Mississippi where Southern Natural Gas Corp. is the holder of valuable franchises.

LONE STAR HAS LAID 275 MILES OF ITS LINE

FORT WORTH, Tex., Sept. 8.—A total of 275 miles of 24-inch natural gas pipe line has been laid on the Texas Panhandle-Lincoln, Neb., line being constructed by the Lone Star Gas Co., United Light & Power Co., and the North American Light & Power Co., and these companies expect to have gas to Lincoln early in September.

Tap lines will supply many towns in Kansas, Iowa and Nebraska along the main 24-inch line, and the main line will cross into Iowa near Plattsmouth and extend in a northeasterly direction to Ogden Junction. From this point 41 miles of 12-inch line will connect onto the town of Des Moines, and another line, 20-inch, will run to Mason City, 87 miles distant.

One hundred miles of line has been completed on the south end of the line which is called the southern division, with only about 15 miles more to be laid. On the north end of the line about 170 miles has been completed, and the compressor building at Clifton, Kans., is now being erected.

MAY EXTEND BILLINGS LINE

CASPER, Wyo., Sept. 6.—It is reported that the Billings Gas Co. has applied for franchises at Bozeman and Big Timber and that the Elk Basin-Dry Creek-Billings gas line will be extended to these points. Construction would involve the expenditure of about $2,500,000, according to the same report. Gas for the Billings line is furnished by the Midwest Refining Co. and Ohio Oil Co. wells in the Elk Basin Field and the Ohio well in the Dry Creek Field.

ENLARGING CAPACITY OF TEXAS-EMPIRE LINE

The Texas-Empire Pipe Line Co. has announced plans to increase its pipe line capacity from 50,000 to 70,000 bbls. a day by building additional pipe line stations half way between the original stations which are now in full operation. The new stations are to be constructed approximately 30 to 40 miles apart, giving the line a total capacity of 70,000 bbls. a day. The line is a 12-inch running from a point in the Seminole Field and Cushing to Chicago, Ill. The line has one branch from Hayworth, Ill., to Lawrenceville, Ill., of 8-inch.

A total of eight new stations will be constructed; six of these stations will have three Worthington centrifugal pumps with a capacity of 70,000 bbls. a day, two of these pumps to be operated in series, with one spare. The new stations will be located as follows, one west of Sand Springs, Okla.; Chetopa, Kans.; Cole Camp, Mo.; Bayliss, Ill., and Broadwell, Ill., and will be electrically operated. One of the other two stations will be located at Sheldon, Mo., and will be a Diesel driven station with three Prescott pumps and McIntosh-Seymore engines. The other new station will have two Goulds pumps and one Prescott pump which will be electric motor driven, and will be located at Fairbury, Ill.

The Texas-Empire Pipe Line Co. has recently completed the construction of an additional pumping unit at all the other nine stations on the line and is running approximately 50,000 bbls. a day.

NEW OKLAHOMA LINE

A 4-inch gas line from the center of the Oklahoma City oil and gas field to Lockhoma Estates and Moore is nearing completion. The line has been completed to a point south of Lockhoma Estates, south of Capitol Hill on the Oklahoma City-Norman highway. Moore, a few miles south, has granted a gas franchise and the gas line is expected to be in that city soon. The Capital Gas Co. of Oklahoma City is constructing the line.

Foss and Canute expect soon to have natural gas from lines being constructed by T. B. Clayton from the Sayre Field. Gas mains are expected to be completed into Foss by about September 25.

SOUTHWESTERN LOUISIANA LINE

HOUSTON, Tex., Sept. 8. — A franchise for the distribution of natural gas in the town of DeRidder, Beauregard Parish, Louisiana, was granted to Moody-Seagraves Co. The franchise will be held in escrow pending the voting of franchises to this company by all of a group of 42 towns in southwestern Louisiana. Approximately half the towns already have approved franchises. Upon receipt of franchises from all the 42 towns, the Moody-Seagraves Co. will lay a gas line into southwestern Louisiana, making connections with all these towns.

ENLARGE COMPRESSOR STATION

Extensions to the Guthrie, La., compressor station of Memphis Natural Gas Co. to provide additional pumping capacity of 20 per cent have been completed, according to announcement made by officials of Appalachian Gas Corp. The work was started early in July. The Guthrie station, one of two stations maintained by Memphis Natural Gas Co., is at the Monroe Field end of the company's main 210-mile pipe line, which terminates in Memphis, Tenn. The other station is near Benoit, Miss.

GAS LINE TO FLORIDA TO BE BEGUN SOON

The construction of the line for natural gas from a point near Mobile, Ala., to Pensacola, Fla., has been authorized by Southern Natural Gas Corp. and work will begin within a short time. From this line natural gas will be made available for distribution by the local gas company in the city of Pensacola to nearby industrial users. It is expected that the line, which will signal the introduction of natural gas to Florida, will cost approximately $1,000,000. The line has been surveyed, rights of way are being rapidly secured, and it is the intention of Natural Gas Engineering Corp., which will build the line, to have this fuel available for distribution in Pensacola, by the local gas company, about December 1.

This new line will begin at a point approximately 4.5 miles north of Mobile, crossing the Tensas River and Mobile River and running almost due east about 25 miles to a point south of Bay Minette, Ala., thence southeast straight into Pensacola. The system will be approximately 67 miles long, and added to the existing transmission lines of Southern Natural Gas Corp. will run the total mileage of natural gas lines in the Southeast to approximately 1,800 miles.

The pipe used on the Pensacola division will be 12¾-inch outside diameter 40-foot lengths. All of the joints will be acetylene welded.

In many respects it is anticipated that the engineering problems on this line will be among the most difficult ever encountered by natural gas construction forces. Southeast of Bay Minette, Ala., for a distance of approximately 10 miles, is almost impenetrable swamps, the only high points being the right of way of a railroad. Due to the difficulty of construction through this section, engineers are expected to observe the construction with unusual interest.

CONTRACT IS AWARDED FOR LINE IN MEXICO

Contract for laying of a 10-inch welded pipe line from Palma Sola, Vera Cruz, to Mexico City was awarded to Ingenieros y Contratistas "Martin" S. A. of Tampico, Mexico, a subsidiary of the James F. Martin Corp., New York City. The contract was awarded by the Cia. Mexicana de Petroleo El Aguila, S. A.

The length of the line will be about 135 miles. The scheme will revolutionize the distribution of oil in that the heaviest railroad haul will be avoided and Mexico City will become a main center.

The project will cost, from an engineering viewpoint alone, more than $2,125,000 and will take 12 months for completion. It will entail pumping the oil to a height of about 6,560 feet within about 62 miles from the starting point and prior to reaching the highest point on the journey six pumping stations will be constructed. From the peak the oil will run down to the city to a distributing center to be established.

The pipe line will be 10 inches in diameter inside and portions will be laid down over some of the roughest country in the world. Extensive blasting operations will be necessary and more than 2,000 men will be employed.

ALBERTA LINE COMPLETED

CHATHAM, Ontario, Sept. 6.—Work on the second section of the duplicate pipe line for Northwestern Utilities, Ltd., between Holden and Ryley, Alberta, has been completed. The work is part of a project to duplicate the entire 75-mile line from the Viking gas field to Edmonton. The first section was built last year.

OKLAHOMA FIELDS

(Continued from Page 42)

Dixie Oil Co.'s extension well southeast of the East Earlsboro Pool, No. 1 Chase, NW cor. NE SW, Section 29-9-6, flowed 3,680 bbls. on a full 24-hour gauge on the air-gas lift from the Wilcox sand at 4,086-4,116 feet.

Operators were taking potential gauges in the Konawa Pool in the southern part of Seminole County. One of the most productive leases in the Konawa Pool, on the new potentials was McMahon & Phillips' Harjo lease in NW SE, Section 20-6-6, which made 4,766 bbls. from three wells. Hilton Phillips, Droppleman and others' No. 1 Chupco, in the S half NE, Section 20-6-6, made 4.625 bbls. from four wells.

In the Asher-Wanette area, Mid-Continent Petroleum Corp.'s No. 1 Archer, SW cor. SE, Section 14-6-3, Pottawatomie County, cored a dry sand at 1,840-45 feet and was drilling deeper at 2,000 feet. The wildcat test of the Deep Rock Oil & Refining Co., No. 1 Marshall, SW cor., Section 30-6-4, south of the old Asher Field, had Sylvan shale at 3,805 feet and was shut down at 3,808 feet.

Oklahoma City Producers

The wells completed in the Oklahoma City Field during the week were as follows: Tom Slick Oil Co.'s No. 2 Alexander, SW cor. NE Section 2-11-3w, made 987 bbls. the first 10 hours from sand at a total depth of 6,550 feet. Same company's No. 2 Classen, NW cor. Section 2-11-3w, made 9,644 bbls. the first 10 hours and 25 minutes from sand at a total depth of 6,586 feet. The company's No. 2 Foote, NE cor. SE SW Section 2-11-3w, made 464 bbls. the first 2 hours and 45 minutes from a sand at a total depth of 6,497 feet. Same company's No. 1 Moore, NW cor. SW NE SW Section 2-11-3w, flowed 1,333 bbls. the first 13 hours and 45 minutes. Same company's No. 1 Houston, NW cor. SW NE SW Section 2-11-3w, flowed 582 bbls. in two hours from sand at a total depth of 6,505 feet. The company's No. 1 C. C. Frost, SE cor. Section 10-11-3w, flowed 1,097 bbls. in nine hours from sand at a total depth of 6,680 feet. No. 3 Frost Heights, SE cor. Section 10-11-3w, made 97 bbls. the first 40 minutes from sand at a total depth of 6,593 feet. Indian Territory Illuminating Oil Co.'s No. 5 Salsman, SE cor. SW NW Section 32-11-2w, flowed 273 bbls. the first 24 hours from the Detrital sand at a total depth of 6,541 feet. No. 6 E. Theimer, SW cor. SE Section 1-11-3w, flowed 1,993 bbls. the first 24 hours from sand at a total depth of 6,372 feet. No. 2 Eacock, SW cor. NW NE Section 11-11-3w, flowed 3,079 bbls. the first 24 hours from sand at a total depth of 6,569 feet. No. 2 Precure, NW cor. SE SE Section 11-11-3w, flowed 5,977 bbls. the first 28 hours and 45 minutes. No. 4 Spillman, NW cor. SE Section 14-11-3w, made 5,451 bbls. the first 10 hours and 45 minutes from a total depth of 6,515 feet. No. 6 Spillman, SW cor. NE Section 23-11-3w, flowed 3,666 bbls. the first 24 hours from sand at a total depth of 6,581 feet. No. 7 Johnson, NE cor. SE NW Section 25-11-3w, made 296 bbls. the first 2 hours and 50 minutes from a sand at a total depth of 6,500 feet. No. 1 Mount Vernon, NE cor. Section 15-11-3w, made 909 bbls. the first 16 hours from a total depth of 6,629 feet. No. 4 M. Unsell, NE cor. NW NE Section 23-11-3w, flowed 36 bbls. the first 35 minutes from a total depth of 6,535 feet. No. 6 Johnson, SE cor. NE NW Section 25-11-3w, flowed 2,388 bbls. the first 16 hours from sand at a total depth of 6,450 feet. No. 2 Coppinger, NW cor. NE NW Section 11-11-3w, flowed 515 bbls. the first 12 hours from sand at a total depth of 6,564 feet. No. 7 Coppinger, SW cor. NW Section 11-11-3w, made 1,582 bbls. the first 15 hours and 5 minutes from sand at a total depth of 6,560 feet. No. 4 Corff, SW cor. Section 11-11-3w, made 49 bbls. the first 30 minutes from sand at a total depth of 6,561 feet. No. 5 Corff, S half NW cor. SW SW Section 11-11-3w, made 3,827 bbls. the first 16 hours from sand at a total depth of 6,593 feet. Anderson-Prichard Oil Corp.'s No. 1 Roosevelt, NE cor. SE SE Section 2-11-3w, made 3,340 bbls. the first eight hours from sand at a total depth of 6,438 feet. Champlin Oil & Refining Co.'s No. 1 McKeenan, NE cor. NW NE Section 2-11-3w, made 4,480 bbls. the first 11 hours and 30 minutes from sand at a total depth of 6,500 feet. Wirt Franklin Petroleum Corp.'s No. 13 Theimer, NW cor. SW SE Section 2-11-3w, flowed 4,098 bbls. the first 16 hours from a total depth of 6,500 feet. Prairie Oil & Gas Co. and Phillips Petroleum Co.'s No. 2 Sigmon, SW cor. NW SW Section 32-11-2w, flowed 2,580 bbls. the first four hours from a total depth of 6,680 feet. No. 6 Sigmon, NE cor. SW SW Section 32-11-3w, made 2,070 feet from sand at a total depth of 6,680 feet. Skelly Oil Co.'s No. 2 Tanner, NE cor. SE NE Section 10-11-3w, flowed 2,725 bbls. the first three hours from sand at a total depth of 6,585 feet. Wirt Franklin Petroleum Corp.'s No. 10 Lowery, NE cor. NW NW Section 12-11-3w, flowed 746 bbls. the first hour from sand at a total depth of 6,465 feet.

Oklahoma City's Shut-in Production

The initial production of the shut-in wells in the Oklahoma City Pool that have been allowed to produce for 24 hours or less as of September 6 and are now shut in for the proration period, was 780,171 bbls. The initial production and the approximate dates each well will be opened for its regular producing period follows:

I.T.I.O.:			
Sudik	*1	[13]0,000	.....
Rensimer	*1	[21]1,930	9-14-30
M. Sudik	*8	[17]8,916	9-14-30
H. G. Trosper	*1	77,595	9-14-30
S. Peterson	*2	[10]7,591	9-12-30
E. Trosper	*2	[12]185	9-12-30
Theimer	*5	[23]562	9-12-30
Spillman	*1	10,227	9-26-30
Holmes Gray	*1	[24]4,173	9-26-30
N. Emerson	6	[20]113	9-25-30
Carrico	*1	[17]7,517	9-27-30
N. Emerson	11	[29]699	9-27-30
Jones	*13	36,186	9-28-30
W. J. Phillip	*1	[30]7,586	9-29-30
Jones	*14	[12]562	9-31-30
Corff	*1	[4]917	10- 3-30
Habegger	*1	[3]3,296	10- 4-30
Peterson	*5	[13]3,755	10- 5-30
Phillips	*1	[27]7,586	10- 5-30
Carrico	*1	9,744	10- 4-30
Coppenger	*1	10,010	10- 5-30
Watters	*5	[31]1,544	10- 5-30
M.-K.-T.	*1	[10]3,264	10- 6-30
H. G. Trosper	*3	7,002	10- 6-30
Boulevard	*1	[3]891	10-13-30
Huffman	*1	3,015	10-12-30
Watters	*6	3,362	10-10-30
Lemon	*2	4,502	10- 9-30
Watters	*4	2,703	10- 9-30
H. G. Trosper	*3	14,720	10- 9-30
R. Hemmer	*1	[6]1,340	10-20-30
Ferndale Commun.	*4	[5]5,966	10-20-30
Pasadena Heights	*2	[4]2,626	10-19-30
State Land	*5	[7]5,524	10-18-30
S. Peterson	*6	[10]0,356	10-17-30
C. Trosper	*4	[23]482	10-30-30
Mid Texas	*1	[6]4,864	10-30-30
Coppenger	*5	[20]3,465	10-20-30
Starkey	*1	[4]716	10-30-30
M. Unsell	*3	[20]1,399	10-30-30
Capshaw	*1	[23]740	10-23-30
Habegger	*2	[6]3,036	10-23-30
H. W. Jones	*3	[15]5,885	10-23-30
B. Johnson	*7	[1]1,400	11- 6-30
C. Trosper	*3	[4]4,000	11- 6-30
S. Peterson	*7	[27]6,612	11- 5-30
Carrico	*2	[13]3,497	11- 4-30
Eacock	*1	[11]1,351	11- 4-30
Handel	*1	[11]1,824	11- 4-30
S. Peterson	*8	[27]4,396	11- 4-30
E. Williams	*1	[8]4,132	11- 3-30
Brown	*1	[8]3,705	11- 3-30
Johnson	*8	[3]581	11- 2-30
M. Sudik	*10	[24]4,000	11- 9-30
R. Hemmer	*2	[4]4,000	11- 9-30
Coppinger	*6	[4]4,400	11- 9-30
Corff	*4	[39]941	11- 8-30
Coppinger	*7	[17]1,582	11- 8-30
Coppinger	*2	[4]515	11- 8-30
Johnson	*6	[24]2,388	11- 8-30
M. Unsell	*4	[3]296	11- 7-30
Mt. Vernon	*1	[1]909	11- 7-30
M. Unsell	*6	3,666	11- 7-30
Spillman	*4	[25]5,451	11- 7-30
Precure	*2	[5]5,977	11- 6-30
Facock	*2	3,079	11- 6-30
Theimer	*6	1,993	11- 6-30
Salsman	*5	273	11- 6-30
W. Franklin:			
Theimer	*8	[20]0,000	9-29-30
Holder	*1	[3]3,000	10- 6-30
Page	*1	7,209	10- 2-30
Page	*2	262	10-29-30
Theimer	*7	[15]5,077	10-16-30
Theimer	*11	[26]5,528	10-30-30
Lowery	*9	[8]7,756	10-26-30
Wright	*3	[26]6,796	11- 3-30
Theimer	*13	[14]4,098	11- 8-30
Cromwell:			
Trosper Park	*20	[8]8,726	9-22-30
Trosper Park	*23	14,623	9-22-30
Trosper Park	*24	[23]3,008	9-23-30
Trosper Park	*25	[34]960	10-20-30
Trosper Park	*27	[14]187	10-19-30
Sinclair:			
Donnell	*1	3,060	9-13-30
School Land	*5	[28]8,808	10-24-30
School Land 54	*6	[12]2,000	9-14-30
Vincl	*14	[26]2,225	9-13-30
Vincl	*16	37,905	9-13-30
Vincl	*6	[21]0,500	10- 1-30
Vincl	*15	[35]175	10-19-30
Vincl	*10	[25]340	10-18-30
Coline:			
Clauer	*9	11,948	9-24-30
Clauer	*13	[3]545	10-10-30
Clauer	*12	1,401	10-18-30
Clauer	*7	[19]968	10-17-30
Warren	7	8,826	9-25-30
Slick:			
G. Milner	*1	[9]9,924	9-14-30
Crawford	*1	13,883	9-28-30
Baker	*4	19,328	9-21-30
Baker	*1	[8]1,428	10- 5-30
Baker	*2	[10]0,250	10-11-30
Milner	2	12,886	10- 2-30
Page	*1	[13]3,433	10-13-30
Page	*2	[1]1,090	10-20-30
Frost Heights	*1	[33]3,937	10-18-30
Frost Heights	*2		
Alexander	*1	[34]330	10-19-30
Campbell	*1	[26]2,875	10-30-30
Foote	*2	[34]464	11- 4-30
Atkinson	*1	[11]1,340	10-26-30
Trumbley	*1	[2]2,611	10-26-30
Frost Heights	*4	[24]4,368	11- 4-30
Baker	*3	[3]3,155	11- 3-30
Atkinson	*2	[10]3,338	11- 2-30
C. C. Frost	*1	[28]1,097	11- 9-30
Houston	*1	[34]582	11- 9-30
Moore	*1	[1]1,333	11- 8-30
Classen	*2	[29]9,644	11- 6-30
Alexander	*2	[24]987	11- 6-30
Mid-Texas:			
Hiddleston	*1	2,320	10- 2-30
Hall & Briscoe:			
Holmes	*3	[25]7,201	10-20-30
Holmes	*2	[24]4,032	10-20-30
Phillips Pet. Co.:			
Traders Comprio	*1	4,055	9-25-30
Prairie:			
Sigmon	*4	7,520	10- 8-30
Sigmon	*5	[24]4,240	10-30-30
Sigmon	*7	[2]2,565	10-24-30
Sigmon	*6	[32]2,070	11- 8-30
Sigmon	*2	[32]2,580	11- 8-30
Shell:			
Egermeyer	*1	[2]2,043	10-10-30
Plains & Denver:			
Boulevard	*1	4,968	10-13-30
Century Pet. Co.:			
Wyatt	1	[3]3,000	10-14-30
Independent:			
Hatcher	*1	5,339	10-18-30
Harrell	*1	[1]1,150	11- 2-30
Julian:			
Community	*1	4,364	10-18-30
Hauser	*1	[3]3,600	10-20-30
Skelly Oil Co.:			
Dillon	*2	[4]4,640	10-23-30
Ainsworth	*4	[3]3,645	10-30-30
Tanner	*1	[2]2,790	11- 3-30
Ainsworth	*3	[7]1,115	11- 4-30
Ainsworth	*2	[21]1,665	11- 4-30
Tanner	*2	[32]2,725	11- 9-30
Mabee & Blackstone:			
Harvey	*1	[36]675	10-25-30
Marco Oil Co.:			
Holder	*1	[2]2,600	11- 2-30
Anderson & Prichard:			
Pest House	*1	[31]0,165	11- 3-30
Roosevelt	*1	[1]0,000	11- 6-30
Champlin Oil & Ref.:			
McKeehan	*1	[16]4,480	11- 6-30
Jones & Blackwell O. & G.:			
Townlot	*1	[1]0,000	10-25-30
Total	145	780,171	

*Wells producing from the Simpson sand. All others are producing from the Arbuckle lime.

[1]Estimated. [2]Thirteen hours. [3]Fourteen hours. [4]Twelve hours. [5]Five hours. [6]Eighteen hours. [7]Sixteen, one-half hours. [8]Seventeen hours. [10] Nineteen hours, 45 minutes. [11]Sixteen hours. [12]One hour, 15 minutes. [16]Twelve minutes. [16]Eleven and one-half hours. [17]Fifteen hours. [18]Twenty-one and one-half hours. [19]Twenty hours. [21]Eighteen, one-half hours. [22]Six hours. [23]Fifteen hours, 40 minutes. [24]Ten and one-quarter hours. [25]Four hours. [26]Eight hours. [27]Eleven hours, 10 10 minutes. [28]Nine hours, 30 minutes. [29]Fourteen and one-half hours. [30]Ten hours, 15 minutes. [31]Twenty-one hours. [32]Thirty minutes. [34]Two hours. [35]Nine hours. [36]Three hours. [37]Twenty-two hours.

These notations indicate the number of hours and wells produced on their initial production test.

Greater Seminole Production

New potential gauges were taken in the various Greater Seminole area in the course of the week and an increase is expected in the total for the coming week. The production totals 201,097 bbls. per day for the week ending September 1. The Seminole Field averaged 134,697 bbls. from 1,893 wells. The daily gauges from the different pools in the Greater Seminole area were as follows:

Pool—	Wells	Bbls.
Little River	374	22,639
East Little River	84	12,046
Carr City	60	8,421
Maud	139	2,522
Mission	98	6,415
Bowlegs	280	14,871
Earlsboro	294	19,632
South Earlsboro	27	8,832
East Earlsboro	155	14,620
Seminole	264	13,998
East Seminole	33	2.234
Searight	85	7,567
Allen	275	15,705
Asher	26	1,275
Wannette	22	8.513
Konawa	98	13,167
St. Louis	486	23,676
Sasakwa	51	4,064
Total	2,851	201,097

Seminole Oil Shipments

The pipe line shipments in the week ending September 1 declined from the previous week's totals approximately 8,000 bbls. per day. The Gulf Pipe Line Co. has been withdrawing 5,000 bbls. a day from storage in the Seminole area. The daily average shipments from the different pools were as follows:

Company—	Semi-nole	Asher Pearson St. Louis	Konawa
Barnsdall	3,298	....	....
Champlin	5,051	....	484
Consolidated	....	1,906	....
Cosden	5,926	..	4,390
Continental	265	....	....
Deep Rock	3,521	438	....
Empire	4,132	....	....
Gulf	12,954	2,307	106
Independent	....	2,860	....
Magnolia	6,139	....	....
Oklahoma	24,401	5,707	416
Prairie	12,642	4,302	3,764
Prod. & Refs.	698	....	....
Pure	3,034	....	....
Shell	4,644	412	910
Sinclair	24,330	8,648	2,207
Texas	6,320	2,106	2,167
Tidal	9,599	3,410	....
White Oak	1,450	....	....
Total	128,404	37,376	14,438
Tank cars	2,752		
Grand total	131,156		

Oklahoma City Oil Shipments

The total shipments from the Oklahoma City Pool for the week ending September 1 were 594,415 bbls. Some new pipe line companies were listed and one company is shipping oil to storage. The shipments by companies and the daily averages were as follows:

Company—	Dy. ave.
Empire	18,364
I.T.I.O.	4,798
Magnolia	8,646
Oklahoma	11,327
Prairie	15,891
Sinclair	14,360
Shell	292
Tidal	4,198
Capitol Refinery	857
Sinclair to storage	8,240
Total	84,916

Beckham County

Robinson and others' No. 1 Dugger, C NE SE, Section 18-9-23w, is cementing surface pipe at 50 feet.

Caddo County

English Drilling Co.'s No. 1 Curtis, SW cor. NE, Section 26-6-10w, has been completed for 15 bbls. in sand 2,182-2,204 feet. Noble & Olson and others' No. 4 Rowe, SW cor. SE NE, Section 36-6-10w, has been completed for 495 bbls. in sand 3,349-59 feet. Magnolia Petroleum Co.'s No. 3 Lacky, NW cor. NE NW, Section 11-5-9w, has been completed for 233 bbls. in sand 3,915-39 feet. No. 6 Lacky, NE cor. NW NW, Section 11-5-9w, has been completed for 700 bbls. in sand 3,946-3,970 feet.

Carter County

Anderson and others' No. 5 Eaves, NW cor. NE SW, Section 24-1s-3w, is a rig. Magnolia Petroleum Co. is building rig for No. 4 Hooks, NE cor. SW NE. Section 24-1s-3w. M.G.R. Oil Co.'s No. 1 Mitchell, NW cor. SE SE, Section 24-1s-3w, is a rig on ground. Pace and others' No. 1 Mitchell, NW cor. NW, Section 30-1s-2w, is a rig on ground. Magnolia Petroleum Co.'s No. 2 Hooks, SE cor. SW NE, Section 24-1s-3w, has been completed for 1,454 bbls. in sands 2,014-18 feet, 2,085-95 feet, total depth 2,352 feet. No. 3 Spigner, NE cor. NW, Section 24-1s-3w, has been completed for 410 bbls. in sand 2,160-2,210 feet. Trevelyn Oil Co.'s No. 3 Mitchell, NE cor. SW SE, Section 24-1s-3w, has been completed for 1,200 bbls. in sand 2,287-2,347 feet. Wirt Franklin Petroleum Corp.'s No. 2 Hooks, SW cor. NW NE, Section 24-1s-3w, has been completed for 1,300 bbls. in sand 1,935-2,090 feet. No. 5 Carpenter-Morris, SW cor. NW SE, Section 11-2s-3w, has been completed for 130 bbls. in sands 3,943-48, 3,950-53 feet, total depth 3,984 feet.

Cotton County

Shasta Oil Co.'s No. 1 McMillian, C SE SE, Section 2-4s-13w, has been abandoned at 2,505 feet.

Creek County

Freeman and others' No. 1 Harris, NE cor. SW NW, Section 15-19n-7e, is a rig on ground. Lebow and others' No. 15 Hutton, CWL SE SW, Section 8-17-7, is an old well preparing to deepen from 2,485 feet. Gilcrease Oil Co.'s No. 1-Bright, SE cor. SE, Section 26-17-9, is a

machine on ground. Murphy and others' No. 2 Baker, NW cor. NE NE, Section 14-17-10, is a rig on ground. Murta and others' No. 2 Stewart, NE cor. SW NW, Section 32-17-12, is drilling at 100 feet. Phillips Petroleum Co.'s No. 4 Charles, SE cor. SE, Section 25-15-7, is a rig on ground. Devonian Oil Co.'s No. 5 Bigpond, SE cor. NW NE, Section 36-15-7, is an old well preparing to deepen. Jennings and others' No. 1 Tiger, NE cor. NW SE, Section 36-15-7, is a location.

Garfield County

Champlin Oil & Refining Co. and others' No. 1 Hays, NE cor. SW SW, Section 30-23-3w, is a rig.

Grant County

Consolidated Gas Co.'s No. 2 Forsythe, C SE NW, Section 2-27-3w, is a rig.

Kay County

Blackwell Oil & Gas Co.'s No. 1 Harshman, SE cor. SE, Section 2-26-1w, is a rig.

Latimer County

LeFlore County Gas & Electric Co.'s No. RO-14 Morrison, NE cor. SW SE, Section 1-6-22, is drilling at 600 feet.

Lincoln County

T. B. Slick Oil Co.'s No. 1 Grof, NW cor. SE, Section 13-14-3, has been abandoned at 5,115 feet.

Muskogee County

Foltz and others' No. 5 Spaulding, SW cor. SE NE SW, Section 9-15-18, is a rig. Hoover Brothers and others' No. 1 Drew, SW cor. NE SE, Section 17-15-18, is spudding. Ethel Corp.'s No. 2 Charles, SW cor. NE SE, Section 6-15-15, has been abandoned at 1,157 feet. Bagcock Brothers and others' No. 9 Barnett, C NW NE, Section 8-15-15, has been completed for 25 bbls. in sand 1,629-47 feet. Parks and others' No. 2 Roberts, NW cor. SE, Section 15-15-18, has been abandoned in sand 2,040-65 feet. Beam and others' No. 1 Begum, NE cor. SE NW, Section 20-15-18, has been completed for 3,478,118 feet of gas in sand 1,328-35 feet.

Wagoner County

Pine and others' No. 2 Childers, C SW SW, Section 23-18-16, is drilling at 200 feet. LaPierre and others' No. 1 Carter, CWL NE SW, Section 34-17-16, is spudding. Longacre and others' No. 1 Harris, NE cor. SW NW, Section 6-16-16, is drilling at 1,000 feet.

Okfuskee County

Kingwood Oil Co.'s No. 1 Jacobs, SE cor. NE NE, Section 21-12n-11e, is a location. Baroda Oil Co.'s No. 3 Adams, CSL SW NE, Section 23-11n-11e, is spudding. Shelden & Staples' No. 1 Wilson, SE cor. NE, Section 21-12n-11e, has been completed for 400 bbls. in sand 3,440-72 feet. Sunray Oil Co.'s No. 2 Wilson, NE cor. NW SW, Section 22-12n-11e, has been completed for 15 bbls. in sand 3,472-3,505 feet. The Prairie Oil & Gas Co.'s No. 3 Wind, NW cor. SE, Section 36-11-9, has been completed for 5,000,000 feet of gas in sand 3,072-77 feet.

Oklahoma County

Indian Territory Illuminating Oil Co.'s No. 1 Fox, SW cor. NE SW, Section 14-11n-3w, is a cellar. No. 1 Webber-Wall, SE cor. NW SW, Section 14-11n-3w, is a rig. Magnolia Petroleum Co. and Ramsey Petroleum Corp.'s No. 1 Johnson, NE cor. SW, Section 35-13n-3w, is dry and abandoned at 7,212 feet. Phillips Petroleum Co.'s No. 1 Traders, SW cor., Section 36-12n-3w, has been completed in sand 6,390-93 feet for 758 bbls. Mid-Kansas Oil & Gas Co.'s No. 1 Mary Cornwell, SE cor. SW, Section 18-12n-1w, has been abandoned in sand 6,905-47 feet. Anderson & Prichard Oil Co.'s No. 1 Pest House, SW cor. NW, Section 1-11n-3w, has been completed for 11,473 bbls. in sand 6,100-6,466 feet. Indian Territory Illuminating Oil Co.'s No. 6 Theimer, SW cor. SE, Section 1-11n-3w, has been completed for 1,993 bbls. in sand 6,335-72 feet. T. B. Slick and others' No. 3 Baker, SW cor. NW SE NW, Section 1-11n-3w, has been completed for 5,586 bbls. in sand 6,170-6,485 feet. Marco Oil Co.'s No. 1 Holder, NW cor. SE SE NW, Section 2-11n-3w, has been completed for 3,800 bbls. in sand 6,395-6,600 feet. Skelly Oil Co.'s No. 2 Dillon, NW cor. NE SW, Section 2-11n-3w, has been completed for 8,810 bbls. in sand 6,187-6,600 feet. T. B. Slick Oil Co. and others' No. 1 Storie, NE cor., Section 2-11n-3w, has been completed for 12,096 bbls. in sand 6,080-6,455 feet. Wirt Franklin Petroleum Corp.'s No. 8 Theimer, SE cor. NE SE, Section 2-11n-3w, has been completed for 12,981 bbls. in sand 6,394-6,502 feet. Skelly Oil Co. and others' No. 1 Ainsworth, SE cor. SW NE SE, Section 10-11n-3w, has been completed for 3,760 bbls. in sand 6,303-6,608 feet. Skelly Oil Co. and others' No. 2 Ainsworth, SE cor. NE SE, Section 10-11n-3w, has been completed for 4,530 bbls. in sand 6,295-6,613 feet. Skelly Oil Co. and others' No. 3 Ainsworth, SE cor. NW NE SE, Section 10-11n-3w, has been completed for 2,665 bbls. in sand 6,290-6,612 feet. Skelly Oil Co. and others' No. 4 Ainsworth, NE cor. SE, Section 10-11n-3w, has been completed for 6,480 bbls. in sand 6,260-6,573 feet. T. B. Slick Oil Co.'s No. 4 Frost Heights, NE cor. SE SE, Section 10-11n-3w, has been completed for 5,100 bbls. in sand 6,387-6,531 feet. Indian Territory Illuminating Oil Co.'s No. 1 Eacock, NW cor. NE, Section 11-11n-3w, has been completed for 2,106 bbls. in sand 6,535-65 feet. No. 2 Eacock, SW cor. NW NE, Section 11-11n-3w, has been completed for 3,078 bbls. in sand 6,265-6,569 feet.

Indian Territory Illuminating Oil Co.'s No. 1 Hand, CNL SW SW, Section 11-11n-3w, has been completed for 2,722 bbls. in sand 6,457-6,610 feet. No. 1 Trosper-Hughes, SE cor. NE SE, Section 11-11n-3w, has been completed for 10,582 bbls. in sand 6,270-6,497 feet. T. B. Slick Oil Co. and others' No. 1 Dennis, NE cor. SE SE, Section 11-11n-3w, has been completed for 7,328 bbls. in sand 6,485-6,538 feet. Cromwell Franklin Oil Co.'s No. 21 Trosper Park, NW cor., Section 13-11n-3w, has been completed for 24,516 bbls. in sand 6,020-6,390 feet. Indian Territory Illuminating Oil Co.'s No. 2 Carrico, NE cor. SW NW, Section 14-11n-3w, has been completed for 4,928 bbls. in sand 6,560-80 feet. No. 6 Unsell, SW cor. NE, Section 23-11n-3w, has been completed for 3,666 bbls. in sand 6,300-6,581 feet. Coline Oil Co.'s No. 13 Clauer, NE cor. NW SE, Section 25-11n-3w, has been completed for 1,005 bbls. in sand 6,418-33 feet. No. 15 Clauer, SW cor. NE SE, Section 25-11n-3w, has been completed for 4,211 bbls. in sand 6,377-6,420 feet. Indian Territory Illuminating Oil Co.'s No. 7 Peterson, SW cor. SE SW, Section 25-11n-3w, has been completed for 6,021 bbls. in sand 6,440-6,621 feet. No. 1 Oklahoma State, NE cor. NW, Section 36-11n-3w, has been completed for 6,330 bbls. in sand 6,640-75 feet. No. 4 Farlay, NE cor. NW NW, Section 19-11n-2w, has been completed for 13,119 bbls. in sand 5,995-6,411 feet. The Prairie Oil & Gas Co.'s No. 5 Sigmon, SE cor. NW SW, Section 32-11n-2w, has been completed for 4,240 bbls. in sand and shale 6,395-6,672 feet.

Okmulgee County

Clarmont Oil Co.'s No. 1 Gill, NW cor. SW SW, Section 23-15n-12e, is drilling at 330 feet. Rossiter Oil Co.'s No. 5 Burgess, NW cor. SW NE NW, Section 20-12n-13e, is spudding. Freeman and others' No. 1 Brown, SW cor. NW, Section 8-12n-14e, is a rig. Logan and others' No. 2-A Perryman, NE cor. SE SE, Section 31-15-13, has been completed for 3,000,000 feet of gas in sand 2,085-90 feet. Burns and others' No. 17 Anderson, NE cor. NW NE, Section 35-14-14, has been completed for 2 bbls. in sand 1,336-45 feet.

Payne County

Wood Oil Co.'s No. 1 Chief, SW cor. SE, Section 33-19-5, is an old well rigging up to deepen. Mulberry Oil Co.'s No. 7 Sharrum, NW cor. NW, Section 5-17-4, has been completed for 800 bbls. in sand 4,153-4,202 feet.

Osage County

Vacuum Oil Co.'s No. 6 Smith, SE cor. NW SW, Section 28-26-6, is a rig. Pawhuska Petroleum Co.'s No. 6 Brown, NW cor. SE SW, Section 3-23-8, is a location. Oklahoma Natural Gas Corp.'s No. 1,809 Smith, NW cor. NE, Section 29-22-11, is a rig. Geraldine Oil Co. and others' No. 1 Bellis, CNL SW SW SE, Section 6-20-9, is a rig. Madden and others' No. 1 Brown, NE cor. SE, Section 15-21-8, is a location. Link Oil Co.'s No. 7 Smith, NE cor. SW SW, Section 34-25-9, has been abandoned in sand 2,052-96 feet. Geraldine Oil Co.'s No. 8 Edmiston, CNL SW SW SE, Section 30-21-9, has been completed for 5 bbls. in sand 1,084-1,102 feet. Pawnee Oil & Producing Co.'s No. 1-A Fee, SE cor. SW SE, Section 23-20-7, has been abandoned in sand 2,857-71 feet.

Pottawatomie County

Empire Oil & Refining Co.'s No. 1 Alfrey, NE cor. SE, Section 7-9-5, is dry and abandoned at 4,372 feet. Standard Drilling Co.'s No. 1, Block 19, Lot 1, Earlsboro, SE cor. SW NW, Section 8-9-5, has been completed for 70 bbls. in lime 4,280-4,371 feet, plugged back to 4,318 feet. Obermeyer & King's No. 1, Block 14, Lot 12, NE cor. SE NW, Section 8-9-5, made 450 bbls. in sand 4,341-60 feet. McEwen & Walker's No. 1, Block 25, Lot 5, Earlsboro, SE cor. SW NW, Section 8-9-5, is dry and abandoned at 4,420 feet. Gwinn Drilling Co.'s No. 1, Block 9, Lot 4, Earlsboro, SE cor. NW SW NW, Section 8-9-5, has been completed for 315 bbls. in sand 4,306-65 feet. Gwinn Drilling Co. and others' No. 1 Gregg, SE cor. SW, Section 23-6-3, made 250 bbls. in sand 3,443-54 feet, total depth 3,468 feet.

Seminole County

Amerada Petroleum Co. and Dixie Oil Co.'s No. 1 Morris, SE cor. SW NW, Section 29-9-6, is a rig on ground. Empire Oil & Refining Co.'s No. 2 Brown, NE cor. SE, Section 3-8-5, is a rig. The Prairie Oil & Gas Co.'s No. 3 Hyde, SW cor. SW NW, Section 2-8-5, is a rig on ground. Magnolia Petroleum Co.'s No. 4 Grounds, NW cor. SE NW, Section 23-9-5, is dry and abandoned at 4,372 feet. Superior Oil Co. and Darby Oil Co.'s No. 2 Noble, NW cor. SE NW, Section 15-9-6, has been abandoned at 3,636 feet. Carter Oil Co.'s No. 6 Campbell, SE cor. NW SW, Section 20-9-6, has been completed for 686 bbls. in sands 4,173-4,219, 4,236-41 feet, plugged back to 4,217 feet. Watt and others' No. 1 Gilbray, SE cor. NE, Section 4-8-8, is dry and abandoned at 4,361 feet. Deep Rock Oil Corp.'s No. 1 Douglas, SE cor. SW NE, Section 30-8-8, made 143 bbls. in sand 3,282-3,300 feet. Pure Oil Co.'s No. 1 Ashby, SE cor. NE, Section 22-7-5, has been completed for 118 bbls. in lime 4,108-77 feet after plugging back from 4,305 feet. Gypsy Oil Co.'s No. 10 Payne, NW cor. SE NE, Section 5-7-7, made 120 bbls. 3,200-16 feet, after plugging back from 3,217 feet. The Texas Company's No. 1 Eliza, NE cor. NW SE, Section 19-7-8, has been completed for 30,000,000 feet of gas in sand 2,878-95 feet. Magnolia Petroleum Co.'s No. 1 Billington, NE cor. SE NW, Section 29-6-6, has been completed for 1,050 bbls. in sand 2,856-72 feet, total depth 2,875 feet.

Stephens County

Sykes and others' No. 2 Blake, NE cor. SW, Section 16-1s-8w, is a rig on ground.

Tulsa County

Tulsa Drilling Co.'s No. 1 McIntosh, NE cor. SE SW, Section 17-19-14, is a machine rigging up. Downing and others' No. L-A Allen, SW cor. NE NE, Section 32-17-14, has been completed for 5 bbls. in sand 1,364-80 feet.

WEST TEXAS FIELDS

(Continued from Page 67)

358 bbls. A. B. Capers, proration umpire of Winkler County, is also proration umpire of the Penn Pool in Ector County, having been appointed by the Railroad Commission.

Daily Average Production

Daily average production in West Texas and Lea County, New Mexico, during the past week ending August 27, showed production exceeding transportation for the first time in several months, pipe lines runs slumping 50,841 bbls. daily, to make the difference. Production was off 12,427 bbls. over the previous week. Runs to refineries increased 3,830 bbls., while tank car shipments declined 2,232 bbls. to 19,689 bbls.

COMPLETIONS IN WEST TEXAS

Week ending September 6

Hudspeth County

The California Oil Co.'s No. 1 University, dry and abandoned; total depth 4,848 feet.

Pecos County

Cardinal Oil Co.'s No. 4 Tippett (Kirby), top pay 442 feet; initial production 175 bbls.; total depth 475 feet. Landreth Production Co. and others' No. 2-I University, top pay 979 feet; shot 20 quarts from 979-83 feet; dry and abandoned; total depth 1,010 feet. Simms Oil Co.'s No. 7-A Smith, top pay 1,645 feet; shot 40 quarts 1,690-1,704 feet; initial production 10 bbls. per hour; total depth 1,709 feet. World Oil Co.'s No. 1-D University, top pay 1,710 feet; initial production 32 bbls.; total depth 1,746 feet.

Gulf Production Co.'s No. 26-A Smith, top pay 1,520 feet; initial production 660 bbls. per hour; total depth 1,693 feet. Same company's No. 3 Yates, top pay 1,400 feet; initial production 38 bbls. per hour; total depth 1,575 feet.

Fisher County

The Texas Company's No. 1 Teagarden, dry and abandoned; total depth 3,240 feet.

Ward County

J. E. Smith's No. 1 Clements, temporarily abandoned at 2,230 feet; show of gas 2,130 feet; increase 2,136-38 feet; show of oil 2,170-77 feet; increase gas and oil at 2,198-2,202 feet; initial production 8 bbls. oil and 20 bbls. water per day through 2-inch tubing.

Ector County

Gulf Production Co.'s No. 5-A University, top pay 3,500 feet; initial production 297 bbls. in 10½ hours; total depth 3,700 feet. Humble Oil & Refining Co.'s No. 1 Jones, top pay 3,530 feet; shot 105 quarts from 3,535-3,600 feet; initial production 260 bbls. flowing; total depth 3,600 feet.

Runs Through Trunk Lines

Company, size, location—	Bbls.
Atlantic, 10-inch, Houston	26,359
Gulf, 10-inch, Ranger	39,572
Humble, 2-8-inch, San Angelo	37,896
Humble, 10-12-inch, Station "A"	19,386
Illinois, 2-8-inch, Del Rio	31,675
Magnolia, 8-inch, De Leon	19,308
Pasotex, 8-inch, El Paso	13,145
Shell, 10-inch, Healdton	36,179
Shell, 10-inch, Houston	23,975
Texas, 12-inch, Houston	16,297
Total	263,792

Runs to West Texas Refineries

Amarillo Ref. Co., Pyote	None
Big Spring Ref. Co., Big Spring	1,170
Burford Ref. Co., Pecos	3,219
Bluebonnett Ref. Co., Wickett	None
Cosden Ref. Co., Big Spring	None
Col-Tex Ref. Co., Colorado	6,500
Great Western Ref. Co., Big Spring	2,509
Humble Oil & Ref. Co., McCamey	14,916
Mid-Tex Ref. Co., Midland	None
Richardson Ref. Co., Big Spring	None
Tonkawa Ref. Co., Pyote	1,318
Wickett Ref. Co., Wickett	160
Total	29,792

Tank Car Shipments

Fox & Thorsen from Mertzon	145
Thomas & Brann from Grant City	None
Orient from Hurdle	85
American from Pyote	8,591
Southern Crude from Wickett	11,048
Total	19,869
Total daily average distribution	313,453
Total daily average production (including Lea County, New Mexico)	314,082
Daily average to storage	629

OIL SHOWS IN BRAZIL

By scientific exploration with diamond drills, Dr. Chester W. Washburne, the American geologist engaged by the Sao Paulo (Brazil) state government, states that there is a fair chance of finding commercial oil fields in this state. Doctor Washburne's findings are set forth in a report which has been submitted to the secretary of agriculture. The report notes that none of the wells thus far developed has been drilled deep enough to test the possibilities of the lower strata even if they had been on suitable structure and that all wells drilled in the Iraty formation (marine Permian) have given small shows of heavy asphaltic oil, indicating its presence in small quantities across the state. There are verified occurrences of a light paraffin oil in two wells in formations below the Iraty shale. A different source, possibly Devonian shale, is assigned to these showings, which opened up greater chances for striking fields of good refining oil. Core drilling is recommended, preferably on anticlines in the southwestern part of the state.

TYPES OF FEED WATER HEATERS IN USE IN PETROLEUM INDUSTRY

By C. E. Reistle, Jr.
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Feed water heaters are generally classified according to their source of heat: (1) Exhaust steam heaters which utilize the heat in the exhaust steam; (2) waste gas heaters which utilize the heat of the flue gases; (3) live steam purifiers which utilize steam at boiler pressure. The exhaust steam heater may be further divided into two classes: (a) Open heaters, in which the exhaust steam comes directly in contact and mixes with the feed water; (b) closed heaters, in which the feed water passes through tubes surrounded by the steam, or the reverse.

In oil field operations the exhaust steam heater is more practical than the waste gas or live steam heaters because there is a large quantity of exhaust steam available, and it is desirable to recover as much condensed steam as possible.

The open type heater generally consists of a shell in the upper part of which there is a series of trays or plates so arranged that the water falls from one to the other in finely divided streams. The water enters the heater on the top tray, while the steam enters below the trays and flows upward through the streams of water and over the trays, transferring its latent heat to the cold water. The trays or plates must have sufficient area and be so arranged that the steam will have a low velocity and be in contact with the water a sufficient length of time to heat the water to the temperature of the steam. The necessary area of the trays depends upon the quantity of steam available for heating the water and to some extent on the quality of the water. Kent gives the following tray area for heating 1,000 pounds of water per hour: Very bad water, 8.5 to 9.1 square feet; medium muddy water, 6 to 6.5 square feet; clear and little scale, 2 to 2.2 square feet. The excess steam after passing over the water trays may be passed through a mist extractor to insure the removal of all suspended water or through a condenser to recover additional water. Much of the scale-forming material is deposited on the trays, from which it can be readily removed. The condensed steam and heated water are collected in the bottom of the heater, where the suspended material may be removed by means of coke or other filtering material and the floating impurities decanted by use of a skimmer or overflow weir. The oil carried by the exhaust steam is usually removed before the steam enters the heater proper by means of a mist extractor and trap so arranged that the water removed with the oil flows into the heater and the oil is drained off. The removal of oil is important, as it will cause the boilers to foam if not removed. The flow of cold feed water into the heater is usually regulated by a float and valve mechanism operated by the water level in the bottom of the heater.

The advantages of the open type heater are: The feed water and steam are in actual contact and the water may be heated to the temperature of the exhaust steam, provided sufficient steam is available; any accumulation of scale or oil in the heater does not appreciably affect the transmission of heat; the suspended water in the exhaust steam and the water formed by the condensation of steam in heating the cold water is recovered without the use of a hot well; the heater is not subjected to more than atmospheric pressure; scale and other impurities precipitated in the heater are easily removed; the heater has a reserve quantity of hot water sufficient to supply the boilers for a short time. The disadvantages of the open type feed water heater are: The feed water and steam are mixed together, and it is necessary to provide for the removal of the oil carried by the steam before the water is returned to the boilers; the heater must always be above and on the suction side of the boiler feed pumps; two pumps are necessary if the water supply is under

(Continued on Page 159)

*This paper represents work done under a co-operative agreement between the United States Bureau of Mines and the State of Oklahoma. Reprinted from United States Bureau of Mines Report of Investigations 3,022.

EAST CENTRAL TEXAS WILDCATS

(Continued from Page 70)

Winona O. & G. Co.'s No. 1 Freeman, 150 ft. from S, W of 89-ac. tract in A. J. Legrone Sur., 4 miles SE of Winona ..... Shut down 3,520 ft.; top Pecan Gap 3,040 ft.

VAN ZANDT COUNTY

Anderson et al's No. 1 York, 65 ft. from E and 150 ft. from S of excess strip, offset to SW cor. Shell Pet. Corp.'s Taylor lease, John Walling Sur. ..... Derrick.
Anderson's No. 1 Sanger, 150 ft. from N and W of Humble Sanger lease in John Walling Sur. ..... Shut down 2,927 ft.
L. R. Barton's No. 1 Wamble, 300 ft. from S and W of 100-ac. tract in Pleasant Young Sur. ..... Derrick.
Broderick & Calvert's No. 1 M. F. Shirley, 150 ft. from W in C of N and S lines of 2.1-ac. strip, John Walling Sur. ..... Drlg. 720 ft.
D. H. Byrd's No. 1 W. H. Mawes, 150 ft. from S and 150 ft. from W, J. Piles Sur. ..... Drlg. 1,050 ft.; elevation 573 ft.
E. L. Chapman's No. 1 Charles Wolverton, 215 ft. from N, 60 ft. S of NE cor. of Wolverton 10-ac. tract, William James Sur. ..... Shut down 3,515 ft.
Cranfill & Germany's No. 1 Swain, 137 ft. N and 50 ft. from W of excess strip on W side of O. L. and L. L. Swain farm ..... Derrick.
T. Daniels' No. 1 Fannie Cumbine, 185 ft. S and 175 ft. E of NW cor. 156-ac. tract, John Wright Sur ..... Shut down 2,275 ft.
Dennis Oil Co.'s No. 1 C. W. Morris, 100 ft. from N and 300 ft. from E lines of Morris 160-ac. tract in C. L. Morris Sur., 5 miles SE of Ben Wheeler ..... T. D. 3,071 ft.; will abandon
Hartt Oil Co.'s No. 1 Dr. L. M. Cox in A. C. Night Sur., 1,785 ft. N of S line and 524 ft. E of W line.... Derrick.
H. Helms et al's No. 1 Bogue, 647 ft. W and 155 ft. S of SE cor. of J. M. Brown 70-ac. in Marshall University Sur., SE of Van ..... Drlg. 685 ft.
B. P. Hervey's No. 1 Foster & Smith, 150 ft. S and 150 ft. W of 104-ac. tract, Margaret Neal Sur. ..... Fishing 4,601 ft.; Woodbine 4,583 ft.
Howard & Dooley's No. 1 Elliott 188-ac. tract in W H. Bundy Sur. ..... Derrick.
Hill & Hill's No. 1 Maxfield heirs, 100 ft. NE of Consolidated's No. 1, 100 ft. NW of Cannon's No. 1, John Walling Sur. ..... Purchased by companies operating in unit plan.
Humble Oil & Ref. Co.'s No. 1 L. A. Dowdle, 1,027 ft. N of S line and 150 ft. E of W line, William Daniel Sur.. Waiting on cement to set 2,942 ft.
Imperator Oil Co.'s No. 1 G. J. Luther, in SW cor. G. J. Luther 32-ac. tract ..... Shut down 3,003 ft.
Imperator Oil Co.'s No. 2 G. W. Carter, 175 ft. from S and 35 ft. from W of G. W. Carter 171-ac. tract, William Daniel Sur. ..... Shut down.
Jenkins et al's No. 1 V. T. Davis, SE cor. of 139.8-ac. tract, Nacogdoches County School Land ..... Drlg. 2,650 ft.
Kolp et al's No. 1 Matthews, 150 ft. S and E of 27-ac. tract off west end of 58.66-ac. tract, Willis H. Bruce Sur. ..... Shut down 3,637 ft.; elevation 509 ft.; Pecan Gap 2,085-2,190 ft.; top Austin chalk 3,072 ft.
Kraft & Kelsey's No. 1 Enas in Vacancy strip on E side of Sam Allen and Wylie Enas farms in J. Prado Sur.. Shut down 1,330 ft.
T. W. Moore's No. 1 Kellam, C of 52-ac. farm in Jesse Russell Sur. ..... Location.
Priest et al's No. 1 Blewitt, 175 ft. NW and SW of SE cor. of NW 84-ac. tract, E. Porter Sur. ..... Shut down 3,003 ft.
Pure Oil Co.'s No. 1 W. E. Morris, 250 ft. N of S line and 200 ft. E of W line of John Walling Sur. ..... Shut down 2,829 ft.
Pure Oil Co.'s No. 1 A. D. Clark, 200 ft. S of N line and 150 ft. W of E line Mund Gross Sur. ..... Shut down 309 ft.
Pure Oil Co.'s No. 1 H. P. Tunnell, 200 ft. S of N line, 285 ft. W of E line James Pace Sur. ..... Shut down 2,820 ft.
Pure Oil Co.'s No. 1 Humphreys, 225 ft. out of NE cor. of lease, A. McPhail Sur. ..... Shut down 2,799 ft.
Pure Oil Co.'s No. 1 R. A. Howell, 825 ft. S of N line, 225 ft. E of W line, Mund Gross Sur. ..... Shut down 2,639 ft.
Pure Oil Co.'s No. 1 J. D. Miller, 943 ft. E of W line, 735 ft. S of N line, John Walling Sur. ..... Shut down 2,788 ft.
Pure Oil Co.'s No. 1 A. D. Clark, 672 ft. S of N line and 217 ft. E of W line, A. H. Wiley Sur. ..... Rigging up.
Pure Oil Co.'s No. 1 O. L. Swain, 225 ft. W of E line and 200 ft. N of S line, John Walling Sur. ..... Waiting on cement to set 2,350 ft.
Pure Oil Co.'s No. 1 Mrs. J. E. Crumble, 748 ft. S of N line and 225 ft. E of W line, John Walling Sur. .... Drlg. 2,800 ft.;
Pure Oil Co.'s No. 1 Mrs. W. A. York, 650 ft. S of N line and 225 ft. E of W line, John Walling Sur. ..... Coring.
Pure Oil Co.'s No. 1 J. L. Petty, 250 ft. out of SE cor. Nacogdoches County School Land ..... Preparing to set 7-in. csg. 2,860 ft.
Pure Oil Co.'s No. 1 W. F. Swain, 328 ft. N of S line and 176 ft. W of most westerly E line, Mund Gross Sur.. Waiting on cement to set 2,722 ft.
Pure Oil Co.'s No. 1 B. E. Crim, 250 ft. S of N line and 200 ft. W of E line, John Walling Sur. ..... Preparing to set 7-in. 2,868 ft.
Pure Oil Co.'s No. 1 Davis, 127 ft. from S and 200 ft. from W of 139-ac. tract, Nacogdoches County School Land ..... Standing.
Pure Oil Co.'s No. 1 Shirley, 93 ft. from S and 354 ft. from W of 43-ac. tract, John Walling Sur. ..... Rigging up.
Shell Pet. Corp.'s No. 1 Taylor, 250 ft. S and 200 ft. E of 30-ac. farm, John Walling Sur. ..... Spudding.
Texas Chief Oil Co.'s No. 1 Foster, 600 ft. E of W line and 600 ft. N of S line of W. P. Foster's 151-ac. tract in F. Montgomery Sur., 7 miles S of Canton.... Drlg. 2,455 ft.
The Texas Company's No. 2 Carter, 150 ft. S and 300 ft. W of 171-ac. farm, William Daniel Sur. ..... Shut down 2,934 ft.; no sand, no show.
Vitek Oil Co.'s No. 1 Smith, 150 ft. S and 15 ft. from W of L. A. Smith 40-ac. farm in John Walling Sur.. Derrick.

WOOD COUNTY

Big Indian Oil Co.'s No. 1 R. J. King, 450 ft. W of E line and 150 ft. N of S line of King's 100-ac. tract in Wm. Barnhill Sur. ..... Shut down 4,569 ft.; Woodbine sand 4,569 ft.
Loche & Clark's No. 1 A. C. Pick, 165 ft. S of NE cor. G. C. Reeves 25-ac. tract, Daniel Fuller Sur. .... Shut down 997 ft.

Pennsylvania Grade Oil Producers Will Prorate Curtailment

BRADFORD, Pa., Sept. 6.—Production in the Bradford Field for the week ending Saturday morning, August 30, averaged 18,710 bbls., and in the Allegany Field 5,541 bbls., or a total of 24,251 for both areas. During the four prior weeks these fields have averaged 19,961 and 6,478 bbls., respectively. The total of these two areas for the four prior weeks being 26,439 bbls. During July the Bradford Field maintained a daily average of 20,466 bbls. and Allegany 7,111 bbls., or a total of 27,577 bbls. It is evident that the producers have made a great effort during the past week further to restrict their production and to keep their totals within the 50 per cent limit, based on April's runs.

The United States Bureau of Mines has issued a report showing that the total of all Pennsylvania crude produced during July equaled a daily average of 62,000 bbls., while the total of all crude daily run to refinery stills during the same period averaged 61,000 bbls., representing an addition to stocks of 1,000 bbls. daily.

During August the production has been further reduced and the refinery consumption increased so that it is evident the supply and demand was balanced about the middle of the month. There is indication that the total production during August may run at a lower figure than for July, while the refinery consumption may be somewhat higher. This will represent that for August there was a draft on stocks of possibly 3,000 bbls. a day. The stocks of Pennsylvania at the close of July, however, closely approached 9,000,000 bbls., or a sum considerably in excess of the amount necessary to protect the industry.

The Bradford conservation board, as well as the boards of all other Pennsylvania producing areas, are busily engaged in a comprehensive study that will give them all the necessary facts and figures to hold a joint meeting in Pittsburgh the latter part of next week, which will result in a decision as to the proper percentage of curtailment to be designated for the various areas. It is the very earnest purpose of the general conservation board that not even a seeming tendency to corner the crude market shall prevail as they are determined that all Pennsylvania refiners must be supplied with their full requirements of crude and at the price that the market for refined products will permit them to pay. It is quite evident that the change back to a normal condition in the industry will need to be made gradually, but with a dependable knowledge of the facts with respect to actual conditions affecting production, refining and marketing.

HOWARD COUNTY RAILROAD

WASHINGTON, D. C., Sept. 8.—The Texas & Pacific Northern Railway has applied to the Interstate Commerce Commission for permission to build a main line of 232 miles and two branches of 46 and 55 miles, respectively. The Texas & Pacific Northern Railway is a new company. The proposed line is to run from the city of Big Spring in Howard County, Texas, in a northerly direction through Howard and Martin Counties to Lamesa in Dawson County, thence through Dawson County in a northwesterly direction to Brownsfield in Terry County and through Vega in Oldham County.

KILLED IN AUTO WRECK

HOUSTON, Tex., Sept. 6.—Herman Trenck, 28, section boss for the Houston Pipe Line Co., was killed and Henry C. Kelly of Houston, superintendent of welders for the same company, was injured when the automobile in which they were going to Houston swerved to avoid another car and turned over twice on the Old Spanish Trail, 1 mile east of Richmond. Kelly, who was driving, suffered severe cuts and bruises, but was not in a serious condition, hospital attaches said.

EDWARD O'ROURKE DIES

Edward W. O'Rourke, oil operator and producer, died September 9 in a Tulsa hospital, following an operation for appendicitis.

IDECO BOYKIN ROTARIES

THE economy of "Ideco" Rotary Drilling Equipment is not measured by the first cost even though that first cost is reasonable. It is rather found in satisfactory operation through years of gruelling oil field service without loss of production or the necessity of costly replacements and repairs.

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Natural Gas Industry Developments

NATURAL GAS RESEARCH MOVEMENT LAUNCHED

Preliminary steps have been taken for the assembling and correlation of data now in the United States Bureau of Mines in any way bearing upon the subject of natural gas conservation, in accordance with the resolution on this subject adopted by the Natural Gas Department Convention at New Orleans last May.

Representatives of the American Gas Association and the Bureau of Mines met in Washington several weeks ago and as a result of this conference economic and technological outlines covering the entire range of the problems that might be considered in this connection were drawn up. These outlines, together with a statement of the general purpose of such a conservation survey and study have been submitted to Chairman H. C. Cooper and members of the main technical and research committee of the natural gas department, as well as to numerous executives of natural gas companies interested in this very vital subject, with the result that the Bureau of Mines has been asked to assign some one of its engineers to the task of assembling and arranging all of the data available for presentation to Mr. Cooper and his committee in time for them to decide upon the main objective of this natural gas conservation program, which they will recommend to the American Gas Association Convention at Atlantic City in October.

E. L. Rawlins has been designated by Dr. Scott Turner, director of the Bureau of Mines, as the engineer to handle the work of assembling this information. Mr. Rawlins is well known to the natural gas industry, having been one of the natural gas engineers at the Bureau of Mines station at Bartlesville, Okla., for the past several years, and is familiar with every detail of the natural gas phases of the bureau's research and investigation, and will work in full accord and understanding with the main technical and research committee in preparation of the material necessary for its report to the October convention.

OKLAHOMA FRANCHISES

Citizens of Coalgate, Okla., have granted, 237 to 32, a gas franchise to the Mid-Western Gas Distributing Co. of Okmulgee. The company proposes to build a gas line to Coalgate from its wells near Red Oak, Okla. Among other Oklahoma towns which have recently granted natural gas franchises are Moore, to the Choctaw Oil & Gas Co.; Vian, to the Oklahoma Public Utility Corp., and Fairland, to the Oklahoma Eastern Utility Co.

FROM OIL TO GAS

Texas Gas Utilities Co., subsidiary of Appalachian Gas Corp., announces that sales of natural gas to the Devil's River electric generating station of Central Power & Light Co. are now over 6,100,000 feet daily. Initial deliveries on completion early in July of the pipe line from the Rycade Field, at which time the power company transferred from oil to natural gas as fuel for its boilers, were 2,500,000 feet daily.

EXTENSION AT CHICKASHA

The Southwestern Light & Power Co. is carrying out a $15,000 improvement program in its gas distribution system at Chickasha, Okla. This includes installation of more than 3 miles of 6 and 4-inch mains. Larger mains and larger regulators will also be installed. An additional gas well is being connected to the supply line of the company running from the Chickasha Field.

GOVERNMENT HELIUM PLANT OUTPUT LARGEST IN ANY FISCAL YEAR

WASHINGTON, D. C., Sept. 8.—The Government's helium plant, near Amarillo, Tex., designed, built and operated by the United States Bureau of Mines, produced 9,801,060 feet of helium in the year ended June 30, 1930. This was the first fiscal year of operation. Although the plant operated only 10 months, having been closed in December, 1929, and February, 1930, for lack of orders, the production was the largest ever turned out by the Government in one fiscal year, being about 800,000 feet greater than the largest fiscal year's production of the Government's Fort Worth helium plant, which formerly supplied helium used by the Army and Navy.

Even with this production the plant was operated at only a fraction of its present capacity, as it is capable of a production of 24,000,000 feet per year. Its output is limited by the demand of the Army and Navy for helium rather than by its capacity to produce.

Helium-bearing natural gas for the Amarillo plant is drawn from Government owned gas wells on the Cliffside structure northwest of Amarillo, Tex., where the Government controls gas rights in about 50,000 acres of land; it is transported to the plant through a Government-owned pipe line.

In the plant the helium is extracted by cooling the natural gas under pressure to a very low temperature at which all of its constituents, except the helium, are liquefied. After the helium has been drawn off, the other constituents are returned to the gaseous state by warming them up to atmospheric temperature. Each foot of natural gas that enters the plant is cooled from atmospheric temperature to about 300° F. below zero and returned to atmospheric temperature in less than one minute. The gas from which the helium has been extracted is discharged into a pipe line, with its heating value improved by the extraction of the helium, and is sold for use as domestic and industrial fuel. All of the equipment for production and transportation of the natural gas and the extraction of the helium is operated by the Bureau of Mines.

The output of the Amarillo plant was steadily increased, and the costs per unit of output were reduced during the year. In July, 1929, the plant produced 628,900 feet of helium at a gross operating cost, which represents the expenditures from the United States treasury to operate and maintain the plant and gas field and to cover supervisory expense in Washington, of $13,390.75 or $21.29 per 1,000 feet of helium produced. In July there was a return to the treasury of $2,544.36 from the sale of residue gas. Deducting this return from the gross cost gives a net operating cost for the month of $10,846.39 or $17.25 per 1,000 feet of helium produced.

The gross operating costs for the 10 operating months were $140,146.75 or $14.30 per 1,000 feet of helium produced; the net costs were $109,562.15 or $11.18 per 1,000 feet. The lowest operating costs of the Fort Worth plant over a fiscal year's operation were about $34 per 1,000 feet of airship gas, containing about 95 per cent of helium. The airship gas produced at Amarillo is about 98 per cent helium and the reported production and costs for that plant are based on the actual quantity of helium contained in its product. The standby costs of the Amarillo plant for the two months of December and February, when it closed for lack of orders, were $19,181.14 gross or $19,046.22 net.

Economies effected during the year are indicated by a comparison of costs for June, 1930, with those for July, 1929. The production in June was 1,407,800 feet, or more than twice the production in the preceding July, but the total operating costs were less than in July, being only $13,172.45 gross or $8,764.76 net. These June costs per 1,000 feet of helium produced are $9.35 gross or $6.23 net. The net cost per 1,000 feet in June was only 36 per cent of the same cost for the preceding July.

Under present conditions it costs less to operate government airships with non-flammable helium than it would cost to operate them with flammable hydrogen. The first cost of hydrogen, as produced for airship operation, may be somewhat less than the present cost of helium. However, when diffusion of air into the gas envelop reduces the purity of the hydrogen to about 85 per cent, the envelop must be deflated because of decreased buoyancy, fire risk and danger of explosion. As no safe and economical process for purifying this hydrogen has been found, it is allowed to escape into the atmosphere and the ship must be reinflated with new hydrogen. This operation is necessary 8 to 10 times a year. When air diffuses into a helium-filled ship, the only serious effect is to decrease the lifting power. In this case, however, the helium can be purified at a cost of from 50 cents to $1.50 per 1,000 feet in plants that have been designed and built by the Bureau of Mines. The new helium required over the course of a year's operation is only about 1½ or 2 times the volume of the ships compared with 8 to 10 times the volume in the case of hydrogen. Thus helium, though possibly somewhat more expensive in first cost, now has considerable advantage over hydrogen in cost over a year's operation in addition to its inestimable advantage of safety from fire and explosion.

GEORGIA NATURAL GAS IN SOUTHERN MERGER

ATLANTA, Ga., Sept. 6.—Official announcement has been made of the purchase of one-half interest in the Georgia Natural Gas Corp. by the Southern Cities Public Service Co., the southern subsidiary of the Central Public Service system. The Georgia Natural Gas Corp. owns systems at Carrollton, Cedartown and Newman and is contracted for systems at Milledgeville, Rockmart and Forsyth.

The Georgia utilities of the Natural Gas Corp. will be operated in conjunction with the properties of the Central Public Service System, which now owns and operates gas utilities at Atlanta, Rome, Athens, Augusta, Macon, Waycross, Griffin, Valdosta and Brunswick.

The Central Public System is affiliated with the Southern Natural Gas Corp., which owns a gas transmission line from the Monroe, La., fields. The Southern Cities Public Service Co. will assume the management of the Georgia Natural corporation.

GAS FOR WARRENSBURG

The Gas Service Co. has been granted a certificate of convenience and necessity by the Missouri Public Service Commission to construct and operate a natural gas distribution system at Warrensburg under a 20-year franchise. The plant will cost $101,000 and the gas supply will be obtained from a pipe line under construction between Ottawa, Kans., and Sedalia, Mo., by the Cities Service Co.

ONTARIO GAS INTERESTS IN IMPORTANT MERGER

CHATHAM, Ontario, Sept. 6.—Announcement has been made of an important merger of Ontario natural and artificial gas interests through the consolidation of United Fuel Investments, Ltd., and its subsidiaries with the Union Natural Gas Co. of Canada, involving assets of more than $42,000,000.

Official announcement, signed by S. A. Morse, president of the Union Natural Gas Co. of Canada, and A. F. White, vice president of United Fuel Investments, Ltd., follows:

"There has been consummated a plan for the consolidation of the properties of the Union Natural Gas Co. of Canada with those of United Fuel Investments, Ltd.

"The Union Natural Gas Co. of Canada, Ltd., will give in exchange for each fully paid common share of United Fuel Investments, Ltd., six-tenths of a fully paid common share of its capital stock, plus a cash payment of 24 cents per share. The holders of more than 60 per cent of the outstanding common stock of United Fuel Investments, Ltd., have already agreed to sell their shares on the terms as outlined above.

"A statement appeared recently regarding the purchase by Union Natural Gas Co. of the City Gas Co. of London. The consolidation therefore will include the properties of Union Natural Gas Co. of Canada, the City Gas Co. of London and United Fuel Investments, Ltd., with its three subsidiaries, Hamilton By-Product Coke Ovens, Ltd., United Gas & Fuel Co. of Hamilton and United Suburban Gas Co., Ltd. This group of companies will be one of the largest distributors of gas and coke in the Dominion of Canada."

Union Natural Gas Co. of Canada have been for many years the largest producer and marketer of natural gas in Ontario. The company was organized in 1912, consolidating a number of natural gas pipe line companies operating from the Tilbury Field and serving the major communities in Essex, Kent and Lambton, selling its gas to local distributing companies. Latterly it has adopted the policy of taking over control of the local distributors, and this year has extended its lines to a number of additional markets. Until recently it has handled natural gas exclusively, controlling production in the Tilbury, Dover and Dawn Fields; but latterly it has supplemented its supply for the Canadian border cities with artificial gas from a stand-by oil gas plant and has planned ultimately to construct a coke-oven gas plant. The company now serves 33,000 consumers in Essex, Kent and Lambton, and holds leases on 180,000 acres with about 220 producing wells. It has more than 1,100 miles of line with buildings and machinery for the production, storage and transmission of gas.

APPALACHIAN PRODUCTION

Companies in the Appalachian natural gas field embraced in Appalachian Gas Corp. group produced 5,766,798,000 feet of natural gas during the first six months of the year, an average of over 31,000,000 feet daily, it is announced by officials of the corporation. Figures do not include Ohio Southern Gas Co. nor other companies in Appalachian Gas Corp. group operating in the Texas, Oklahoma and Louisiana gas fields. The figures for Appalachian Field output include six months' production of Ohio Valley Gas Corp., Ohio-Kentucky Gas Co., and West Virginia Gas Corp., but less than four months' production of Wayne United Gas Co. which did not commence deliveries of gas until March, 1930.

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Personal Paragraphs About Oil Men

Fred Nation, manager of tank car sales, Shell Petroleum Corporation, Chicago, has returned from his vacation.

* * *

F. Kinzback, president of the Kinzback Tool Company, Houston, Texas, is on a vacation with his family in Colorado.

* * *

J. F. Hosterman, district geologist for the Amerada Petroleum Corporation at San Angelo, Texas, was in Tulsa on business.

* * *

Robert W. Phelps, formerly resident geologist of the Union Oil Company at Brea, has opened an independent office at Venice, Calif.

* * *

Harry Smith, who recently returned to Petrolia, Ontario, from Colombia, on sick leave, will leave again for Colombia early in September.

* * *

L. J. Black of the Beaumont Iron Works Company recently spent several days at Sasakwa, Okla., in connection with air lift experimentation work.

* * *

J. C. MacQuiddy, of the Standard Oil Company (California), was recently elected chairman of the Bilge Club, composed of men associated with marine transportation.

* * *

Richard Giles and wife are spending a vacation in Minneapolis, Minn., with their parents. Mr. Giles is with the Independent Oil & Gas Company, San Angelo, Tex.

* * *

T. F. Driscoll, of Bradford, Pa., for 22 years an employe of the United Natural Gas Company, at the company's plant at Lewis Run, Pa., retired from active service September 1.

* * *

John A. Fryer, vice president of the Cardinal Oil Corporation, Tulsa, is back at his office after a vacation spent camping in Wisconsin with Mrs. Fryer and their four children.

* * *

Jack Hesterly, formerly with the Louisiana Oil & Refining Company at Tyler, Tex., is now combination landman and scout with the Arkansas Fuel Oil Company at San Antonio, Tex.

* * *

E. W. Basset of the production department of the Skelly Oil Company at El Dorado, Ark., has been transferred to Midland, Tex., and placed in charge of West Texas and New Mexico.

* * *

M. T. Hartwell, geologist for the Transcontinental Oil Company, Fort Worth, Tex., and wife and young son have left to make a trip by automobile back to Mr. Hartwell's old home in Pennsylvania.

* * *

C. W. Chancellor, with the Prairie Oil & Gas Company, is now in charge of the company's office in Oklahoma City. Mr. Chancellor was formerly a landman working out of the Tulsa office.

* * *

A. A. Kramer, president of the Columbian Steel Tank Company, Kansas City, Mo., has returned from his first real vacation in several years, spent in Canada, just north of the Michigan State line.

* * *

James Anderson, vice president of the Humble Oil & Refining Company, Houston, Texas, has Honolulu as the destination for his vacation trip. He is accompanied by Mrs. Anderson and at Los Angeles he and Mrs. Anderson were joined by W. B. Pyron, formerly vice president of the Gulf Production Company, Houston, and Mrs. Pyron.

* * *

W. W. Keeler, formerly chief geologist for the Minnehoma Oil & Gas Company, subsidiary of the George F. Getty, Inc., in Oklahoma, has been transferred to Fort Worth, Texas, to act as chief geologist for the Getty Petroleum Corporation. H. M. McComber, vice president and general manager of the company, recently moved to Fort Worth and is in charge of the office, and E. H. Shaw is land man.

Lewis W. MacNaughton, formerly with the Rycade Oil Corporation, is now associated with the Amerada Petroleum Corporation.

* * *

Tom Adkerson, assistant purchasing agent for the Magnolia Petroleum Company at Dallas, Tex., is spending his vacation in Houston.

* * *

H. T. Lauri has been transferred to the Chicago marketing office of the Shell Petroleum Corp. from the St. Louis division. Mr. Lauri will be assistant manager.

* * *

H. H. Gray, general manager of the Gray Specialty Company, and C. C. Brown, inventor of the Brown Safety Tubing Head, are making a trip through the Hobbs, N. Mex., oil field.

* * *

Nowery J. Smith, district representative of the Columbian Steel Tank Company and other oil equipment lines, Houston, Texas, is combining a vacation and business trip in Los Angeles, Calif.

* * *

Linn Park, president of Portable Rig Company, Houston, Texas, has been spending his vacation in Michigan. On his trip he stopped at Waukesha, Wis., to visit the plant of the Waukesha Motor Company.

Men in the Industry

Robert G. Stewart

Robert G. Stewart, president of the Pan American Petroleum & Transport Company, entered the oil industry about 15 years ago when he took a position with the Standard Oil Company (Indiana) in Minneapolis, Minn., as a salesman. He has traveled widely since that time in his rise to the presidency of Indiana's big subsidiary.

After serving for a while in his Minneapolis job Mr. Stewart was transferred to Mankato, Minn., where he was assistant manager and then manager. In 1919, he went to Chicago as assistant general manager. Leaving the company in 1925, Mr. Stewart became managing director of the British Mexican Petroleum Company in London. He returned to the United States a year later to become vice president of the Pan American Petroleum Corporation, a subsidiary operating in the south. He was elected a director and president of the Pan American Petroleum & Transport Company in 1927.

Mr. Stewart was born in Marion, Iowa, in 1892. He completed his education in Chicago University. His chief diversion is golf, but he is interested also in other forms of athletics.

Harvey S. Smith of Houston, Texas, has been spending a vacation aboard his yacht in the Corpus Christi district.

* * *

L. M. Pearce, president of the Texas Iron Works, Houston, Texas, has been spending several days in Laredo, Texas, on business.

* * *

E. B. Corbett, president, Harrisburg Pipe & Pipe Bending Company, Houston, Texas, is spending a vacation on a motor trip to Arkansas.

* * *

L. C. Boldenweck, direct sales representative of The Cleveland Trencher Company, Cleveland, Ohio, has been calling on the pipe line trade.

* * *

C. J. Davidson, of the Shira & Davidson Drilling Company, has returned to the Fort Worth, Tex., office after spending three weeks in Odessa.

* * *

G. T. Rockenbaugh, Tulsa representative of the Beaumont Iron Works Company, is spending several days visiting the field at Hobbs, N. Mex.

* * *

F. D. Bostaph, sales manager for the Texas Pacific Coal & Oil Company, Fort Worth, Texas, has just returned from a business trip to Houston.

* * *

H. W. Imholz, geologist for the Shell Petroleum Corporation, San Angelo, Tex., is spending his vacation in New York, Virginia and other eastern points.

* * *

J. C. Mann, assistant sales manager of the International Supply Company, is back from a vacation spent in California. Mr. Mann made the trip by automobile.

* * *

T. C. Skeen, of the executive staff of the Columbian Steel Tank Company, has returned from his vacation on Lake Champlain, New York, and is in Oklahoma City this week.

* * *

C. F. Lienesch, special representative of the Union Oil Company of California, has returned to Los Angeles from Chicago, where he was in charge of the women's air derby held in connection with the National air races.

* * *

Kirby Smith, sales manager of J. H. McEvoy & Company, has returned to Houston, Texas, from a trip to Oklahoma, visiting Oklahoma City, Bartlesville and Tulsa, with E. D. McCabe, Jr., Oklahoma representative.

* * *

R. A. Mueller, general manager of the Gray Tool Company, has just returned to Houston, Texas, from a motor trip to California with his family. While on the trip he visited the California oil fields, the Grand Canyon, Hobbs, N. Mex., and West Texas oil fields, thereby combining business with pleasure.

* * *

D. V. Stroop, from the secretary's office of the American Petroleum Institute in New York City, was in Tulsa last week attending the meeting of the central group of the Automotive Transporation Committee of the Institute.

* * *

Charles S. Warren, superintendent of production in Texas and New Mexico for the Empire Oil & Refining Company, has been transferred to Kansas to succeed J. G. Dickinson as superintendent. Mr. Dickinson, after four years at Oil Hill, Kans., has resigned to accept a position with the Natural Gas Company of America with headquarters at Kansas City, Mo.

* * *

Donald L. Connelly and Miss Martha Hoenig, both of Bartlesville, Okla., were united in marriage in St. Joseph's Cathedral, Columbus, Ohio, on September 2. The bride is a daughter of Mr. and Mrs. Arthur V. Hoenig, the former of whom is vice president in charge of production for the Indian Territory Illuminating Oil Company, and Mr. Connelly is an executive of the same company. Mr. and Mrs. Connelly will reside in Bartlesville.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

WELDING TERMS DEFINED

Among terms used in an article about fusion welding are "overhead weld," "fillet weld," "edge weld" and "vertical weld." Can you tell me what each of these terms means? If there are other kinds of fusion welds, will you explain them, too, please?—D. S. G.

This department probably can do no better than give you the definitions of these terms as they are found in a bulletin published by the American Welding Society for standardizing welding terms and symbols. They follow:

Butt weld—A generic form of weld whose throat lies in a plane disposed approximately 90° with respect to the surfaces of at least one of the parts joined.

Fillet weld—A generic form of fusion weld of approximately triangular cross section, and whose throat lies in a plane disposed approximately 45° with respect to the surfaces of the parts joined.

Flat weld—A butt or fillet weld made by the fusion welding process with its linear direction horizontal or inclined at an angle of 45° or less to the horizontal, the weld being made from the upper or top side of the parts joined.

Vertical weld—A butt or fillet weld made by the fusion welding process with its linear direction vertical or inclined at an angle less than 45° to the vertical.

Overhead weld—A butt or fillet weld made by the fusion welding process with its linear direction horizontal or inclined to an angle less than 45° to the horizontal, the weld being made from the lower or under side of the parts joined.

Horizontal weld—A bead or a butt weld made by the fusion welding process with its linear direction horizontal or inclined at an angle less than 45° to the horizontal, the parts welded being vertically or approximately vertically disposed.

Edge weld—A generic form of weld whose throat lies in a plane disposed approximately in the same plane as the surfaces of the parts joined.

TRUST THE DRILLER

I am getting a little nervous about a wildcat well that I am having drilled, along with some associates. A change in the drilling speed seems to make no difference to the driller. I saw the bit drop about 4 feet in 45 minutes, although just before that it had been making 6 or 8 inches in the same length of time. Shouldn't a sudden change of this kind be investigated immediately?

There have been three definite showings of oil in this hole, which is now 1,425 feet deep. The first was at 85 feet, presumably the same seepage that is detected in numerous water wells nearby. The second was at 460 feet and the third at 830 feet, all obtained when the hole was dry.

A 10½-inch casing goes to 580 feet and open hole was carried to 1,090 feet, although water entered the hole at 870 feet and in just a short time filled the hole up to about 130 feet from the top, which is the condition now. The driller put in 8½-inch casing at 870 feet in the hope of shutting off the water and preventing caving. At the bottom of the casing are a shoe and a rubber packer, but the driller insisted that before making any test of the water shutoff he had to drill about 30 feet deeper. The drill stem was 30 feet long and it slapped around in the bottom of the casing, keeping it from making a direct blow and threatening to damage the shoe and the packer.—A. G. M. I.

Your anxiety is very like that of another inquirer who wrote to this department several weeks ago, and the answer will have to be much like the one given him: "Trust your driller."

The ordinary drilling contractor is capable and employs only competent and trustworthy workmen. This being the case, it is only possible to assume at this distance that the driller knows what he is about. The fact that his speed of drilling varied over what appeared to be wide ranges indicates nothing unusual.

The driller with experience can tell by the "feel" of the drilling cable a good deal about what is going on at the face of the bit, and having this experience he takes cognizance of the rate of drilling. There seems no reason for you to be concerned about the apparent great differences in drilling speeds. Nor is any criticism to be offered as to the methods followed by the driller in other ways.

He is evidently governed largely by the general conditions of the hole. In setting his 8¼-inch casing at 870 feet he is "running out of hole" quite rapidly if he has other water sands below that point. He, therefore, cannot well reduce hole again and set his 6⅝-inch casing for he could not hope to reach the lower formations in which it is most likely that oil or gas will be found, if at all.

In the April 3, 1930, issue of The Oil and Gas Journal a very similar problem was presented in the Field Problems page under the caption "Should Drilling Continue?"

You must go back to the situation which prevailed when you and others put up money to drill this well in the hope of finding oil or gas in commercial quantities. Having decided upon that course, a drilling contractor was selected and directed to drill the well. To him this is simply another contract and his men are following their regular routine work in drilling the well.

To them it is simply another hole and if they looked at it otherwise you would not be getting a real "run for your money" for to be of commercial importance this well must be drilled and completed in accordance with standard practice, and it is assumed that your drilling contractor is following that closely.

You have money invested and you are naturally anxious to find oil or gas and prone to think the drilling crew is neglecting details, which as a matter of fact have absolutely no bearing on the main issue, for if commercial oil or gas is encountered by the bit it will make itself evident and no one will be in doubt as to whether you have a well.

So you probably will agree that your reactions are largely psychological and if you are going to follow the "oil game" you must expect to have feelings of insecurity and doubt. "Wildcatting" is exciting to say the least, but on the whole not profitable.

There is a marked distinction between the "petroleum industry" and the "oil game" and taking a chance on a wildcat, no matter how well the area has been geologized or how reputable the persons involved it is always a gamble and if you sat in at a poker table you probably would find about the same things to worry about as you did when you were on that drilling rig floor watching the driller go about his business just as unconcerned as the dealer would at the poker game.

Your specific questions are not answered here but it is hoped your nervousness has been allayed.

WHY WAS IT CALLED THAT?

BLEEDER

"Bleed" means "to let blood" and by common usage it describes the operation of withdrawing accumulated water in an air vessel, gas line, etc. It is quite generally accepted in industry as describing any act where liquids are removed from containers in comparatively small streams. The "bleeder" is the cock or valve used in such operations.

INSULATING THE BOILER

Does covering oil field boilers and steam lines with some insulating substance save enough in fuel or otherwise to pay for the expense involved? I understand this practice is followed by some companies. If the practice does seem to be worth while I wish you would tell me what kind of covering is used and how it is put on.—D. G. S.

This is a pertinent question worthy of consideration by the petroleum engineer and field man. In the October 24, 1929, issue of The Oil and Gas Journal, Page 100, Walter H. Meier, engineer for the Atlantic Oil Producing Co., Dallas, Tex., gives a good example of work of this kind.

Mr. Meier further expanded on this problem in his paper, "The Advantages of Insulation of Oil Field Boilers," presented before the Galveston meeting of the southwestern district of the American Petroleum Institute, division of production, held September 4 and 5.

The data so far collected from actual field installations of this type shows that the cost of insulating the boilers is repaid in saving of fuel and higher efficiency of the plant in a short time. In some cases the cost of additional equipment was eliminated because the original installation was able to handle a greater load when properly insulated.

It is recommended that Mr. Meier's articles be carefully studied and it is thought that the application of this idea to boilers used in oil field work will be valuable in most cases.

DISSOLVING METHOD

Your magazine gave directions in an article a year or so ago for testing samples of sand for porosity where the sample contains organic or mineral matter that would be affected by heating. I believe it was called the dissolving method. It was in the middle of an article and I have been unable to find it. If you can tell me the article I will be greatly obliged to you. You may think it worth while to describe this method on your page, as it is quite likely others would be interested in it.—E. E. R.

It is assumed that you are referring to the article entitled "Sand Study Becomes More Important" that appeared on Page 39 of the November 7, 1929, issue of The Oil and Gas Journal.

This article covers several methods of ascertaining the porosity of sands, but the one you probably have in mind was taken from United States Bureau of Mines technical paper Serial No. 2,875 prepared by Chase E. Sutton, entitled "Use of the Acetylene Tetrachloride Method of Porosity Determinations in Petroleum Engineering Field Studies."

The equipment for this process, costing about $30, can be packed in a small case. It is listed as follows:

1 Porosity apparatus
3 Small beakers (100 cc.)
1 Agate mortar and pestle
3 Porcelain crucibles
1 Small glass funnel
1 Graduate (50 cc.)
1 Thermometer (ordinary room temperatures)
½ Gallon acetylene tetrachloride
Miscellaneous items—Stopcock grease, tweezers, filter paper, camel's hair brush and cloths.

As the method of determining porosity would require considerable space for description it is suggested that you either refer to the article in The Oil and Gas Journal of November 7 or get a copy of Serial No. 2,875 from the United States Bureau of Mines, publication department, Washington, D. C.

"PRESSURE DROP" METHOD

May I ask you to explain what the "pressure drop" method of measuring gas leakage is? Is it the most accurate method of measuring such leakage? What other methods are there?—K. I. Y.

The shut-in pressure drop method of measuring the amount of leakage in natural gas transmission lines consists, as its name indicates, in shutting in a line or part of a line under pressure by use of "blind" discs between pipe flanges or with "bull plugs," and then observing the rate of pressure drop. The line usually is subject to a pressure equal to or greater than the operating pressure. A dead weight gauge which will measure pressures with an accuracy of 0.1 pound per square inch is used in taking pressure drops.

The pressure drop method of ascertaining leakage losses is one of three developed in an investigation conducted several years ago by the United States Bureau of Mines in co-operation with the Natural Gas Association of America. The two other methods are the "metering in" and the "metering in and metering out." The pressure drop method is regarded as the most accurate means of measuring gas leakage. The whole subject is dealt with in detail in a report on "Methods of Testing High-Pressure Natural Gas Lines for Leakage Losses," Bureau of Mines Serial No. 2,752, by E. L. Rawlins, which can be obtained from the superintendent of documents, Washington, D. C.

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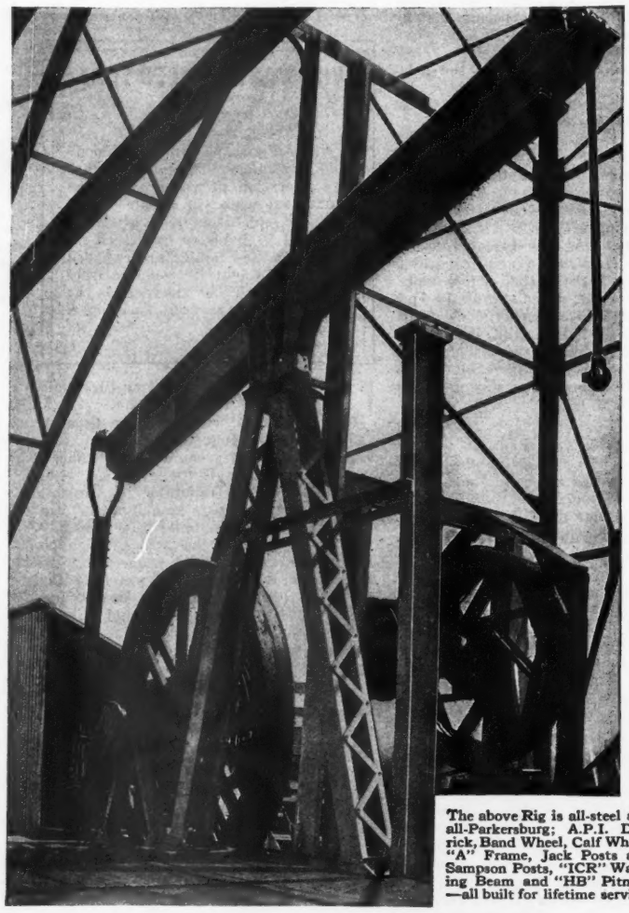

The above Rig is all-steel and all-Parkersburg; A.P.I. Derrick, Band Wheel, Calf Wheel, "A" Frame, Jack Posts and Sampson Posts, "ICR" Walking Beam and "HB" Pitman —all built for lifetime service.

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QUALITY always pays. There is no substitute. In Oil-Field Equipment by Parkersburg, Quality is linked with Service—Service from the Product in use, Service from the Manufacturer, and cheerful, prompt and helpful Service from Parkersburg Representatives in every field. This threefold follow-through to satisfaction is the pledge and practice of the Parkersburg Organization.

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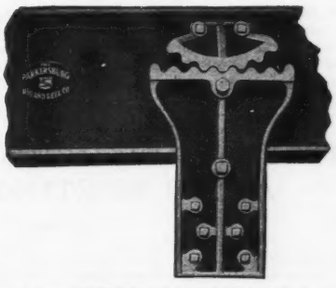

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The "Center Rocker" principle gives a longer, straighter, more uniform stroke and prevents side sway or weaving. An added mechanical advantage saves power by reducing Pitman angularity. The improved stroke needs no special straight-line hanger device.

"A" Frame Steel Sampson Posts
The modern, economical installation. Made of structural steel shapes riveted into a rigid assembly. Extra strength and permanence are combined with portability. Posts are fabricated for shipment in two sections, easily assembled on location.

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Note sturdy construction—a 6-inch, 25-pound, Steel H-Beam Stem with extra riveted and welded reinforcement at bearing end. Patented self-aligning, self-lubricating bearing, operated by the simple boomer lever on the side, saves time and fingers.

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Made of structural steel with bases both riveted and welded to prevent looseness or play and assure freedom from vibration. Made in three heights for every rig. Ask for Bulletin.

Close-up view of simple "boomer" type lever on "HB" Pitman which lifts bearing cap wide open for removal from wrist pin. Off and on in thirty-nine seconds easily. The patented, self-aligning bearing banishes wrist-pin troubles for all time.

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But Ten Completions in Southeast Ohio

Best Well Was 20 Bbls. and in Gas Field Half Million Foot Well Was Largest. Deep Test in Roane County

By Special Correspondent

PITTSBURGH, Pa., Sept. 8.—Drilling in the Eastern Fields has been so retarded by the extremely dry weather that fewer completions were reported during the week and of these none was of any size or significance. In scanning the number of wells drilling in the three districts, little difference can be noted, but many of these are shut down temporarily waiting on water, to complete. In southeast Ohio but 10 completions were recorded and the largest well was 20 bbls., and in the gas fields 500,000 feet was the largest.

Southeast Ohio

Probably the best well completed in southeast Ohio during the past week was in Section 9, Lake Township, Ashland County, where the Great Lakes Oil Co. completed No. 3 on the C. I. Sellers farm to the Berea at only 654 feet as a gas well making 500,000 feet and showing for 1 or 2 bbls. of oil. In the same county, and in Section 34, Mohican Township, Meltzer & Moore completed No. 2 on the George Black farm to the Berea at 833 feet as a duster.

In Athens County, the Ohio Fuel Gas Co. completed its test on the W. E. Day farm, Section 19, Carthage Township, to the Injun sand at 1,253 feet and it is dry. McClay Brothers and others drilled their second well on the Perry Ashcraft farm, in the northwest quarter of Section 15, Pike Township, Coshocton County, to the Clinton sand, a depth of 3,150 feet, showing for a gas well good for 125,000 feet. In Jefferson County, Richard Graham and others completed a test on the James A. Blackburn farm, in the southwest quarter of Section 17, Island Creek Township. It was drilled to the Berea sand at 1,200 feet and made 10 bbls. the first day after a shot.

Medina County

In Medina County there were three fair wells completed in the shallow sands. In Lot 2, Section 13, Chatham Township, the Oko Oil & Gas Co. completed No. 40 on the Henry Essig farm to the Cow Run sand, 394 feet, and after a shot it produced 20 bbls. the first 24 hours. In Lot 6, Section 16, of the same township, the same company completed No. 28 on the T. W. Brinker farm at 332 feet and it produced 10 bbls. the first day after a shot. In the same township, but Lot 3, Section 18, J. R. Kommer completed No. 6 on the J. A. Kruggle farm at a depth of 540 feet and after a shot it made 8 bbls. the first 24 hours.

Muskingum County had but one completion. In the southwest quarter of Section 32, Newton Township, the Northern Development Co. and others completed a test on the William H. Comb farm to the Clinton sand, 3,483 feet, a dry hole. In Vinton County, the Hope Construction & Refining Co. completed a test on the Daniel Boss farm to the Grit at 1,177 feet and it made 5 bbls. the first 24 hours after a shot.

WEST VIRGINIA

The best oil well drilled in West Virginia during the week was probably the the Pure Oil Co.'s No. 253, completed on the Williams Coal Co. tract, in Cabin Creek district, Kanawha County. It was completed to the Berea sand, 3,327 feet, showing for 15 bbls. a day. On the same tract, the Pure Oil Co. completed No. 251 to the Berea sand, 3,195 feet, making 6 bbls. natural. On Elk River, Big Sandy district, the Buff Lick Oil & Gas Co. completed its test on the W. D. & Rebecca J. Young farm. It was drilled and shot in the Weir sand and is making 27,000 feet of gas and 3 bbls. of oil.

In Grant district, Ritchie County, P. N. Rinehart drilled No. 3 on the T. E. Moore farm to the Maxon sand, 1,545 feet, estimated good for a 25-bbl. well. On Laurel Run, Murphy district, Ritchie County, E. E. Pope completed No. 8 on the Robert & H. S. Wilson farm in the Salt sand, 1,600 feet, showing for a 2-bbl. pumper.

Gas Wells

In Boone County, the Southern Gas Co. completed No. 3 on the Miller heirs farm, in Washington district, at 1,733 feet, showing for a light gas well. The Hamilton Gas Co. completed a fair gasser in No. F-13 on the R. T. Markin, Jr., farm, in McComas district. In Sherman district, Calhoun County, L. P. Bickel drilled No. 10 on the Martha Stump farm to the Injun at 1,733 feet and it is a fair gas well, and in the same district, his No. 11 on the S. T. Stump farm to the Injun is showing for 400,000 feet.

In Doddridge County, Lucas & Mawhiney completed a test on the L. M. Pitts farm to the Big Injun at 1,721 feet and have a gas well. This farm is in Central district, on Arnolds Creek. The McCall Drilling Co. completed No. 1 Shea heirs, located on Washburns Run, Skin Creek district, Lewis County. It was completed in the fifth sand and will make a small gas well. In Kanawha County, the Island Gas Co. completed its test on the Scott & Smith farm, in Cabin Creek district, at 1,641 feet and it is a light gasser.

There were four wells completed in Lincoln County, all small gassers. The United Fuel Gas Co. completed its test on the A. I. Dotson farm to the Berea at 2,301 feet and the Conley Gas Co. a test on the W. M. Adkins farm in the Berea grit at 2,550 feet. Both of these were in Jefferson district. The other two were in Carrol district and were the Louis R. Sweetland No. 1 on the Phoebe Reynolds farm, completed in the Berea grit at 2,292 feet, and the Allegheny Gas Corp.'s test on the G. W. Lucas farm, in the Big Lime at 1,623 feet.

In Marion County, the Philadelphia Natural Gas Co. drilled its test well on the William Snyder farm still deeper to 3,652 feet and found the lower sands dry. In Mingo County, the United Fuel Gas Co. completed No. 4265 on the Nettie D. Wilcox farm, in Warfield district, at a depth of 3,417 feet, showing for a light gas well.

In Marion County there are five wells drilling, all tests. The Owens Illinois Bottle Co. has reached 2,300 feet in a test on the Lernie Toothman farm in Paw Paw district and have a rig standing on the O. A. Keefever farm in the same district. Victor Tennant has reached 940 feet and 900 feet, respectively, in his tests on the Minnie Price and Elza Ames farms in Paw Paw district. Harry Tennant is down to 1,480 feet on the Augustus and W. H. Mercer farm. In Coal district, Harrison County, the Reserve Gas Co. has a rig standing for a second well on the H. J. Thompson farm.

In Monongalia County the Pedlar Run Oil Co. is shut down for water at 2,485 feet on the Lewis R. Hess farm. J. H. McDermott and the Moore Tex Oil Co. have reached 1,711 feet on the Louanna Tennant farm. Both are in Clay district. The Manufacturers Light & Heat Co. has shut down No. 3 on the Saul Thomas farm in the same district for lack of water. The H. L. and C. S. Lutton Co. test on the Mark Shriver farm has reached 2,500 feet.

Tyler County

In Tyler County, in Centerville district, the A. S. McCollough Co. has a rig up on the D. D. McCollough heirs farm. In Wetzel County the Wetzel Gas Co. has rigged up on the Francis Barrick farm in Church district. The Hundred Gas Co. is down to 2,300 feet in its second test of the McDonald heirs farm in the same district. Null & Moorhead's No. 3 on the Charles Snodgrass farm, Church district, has reached 2,715 feet. In Grant district the Shimwell Oil & Gas Co. has shut down its test on the Joseph Price farm. The Union Gas & Oil Corp. has started drilling and reached 600 feet on the Mary Pethtel farm in Church district.

In Marshall County the Twin Oaks Gas & Oil Co. is down to 800 feet on the Parriott heirs farm, Liberty district. The Union Gas & Oil Corp. has a rig standing for a test on the W. H. Loper farm in the same district. In Butler district, Hancock County, John J. McIntosh is down to 900 feet in No. 3 on the McIntosh heirs farm, and in Grant district the R. J. Braden Co. has rigged up for No. 44 on the C. E. Brenneman farm.

In Doddridge County the Columbian Carbon Co. has spudded in and started drilling No. 58 on the Louis Maxwell farm in West Union district. The Carnegie Natural Gas Co. has reached 1,700 feet in No. 30 on the Leeman Maxwell farm in the same district. Frank Finley and others have their test on the Donald Smith farm, Central district, down to 2,100 feet.

Ritchie County

There are four rigs standing in Ritchie County. The Franklin Deen rig on the W. C. Lawrence farm, Grant district, a test; the E. B. Wharton and others rig on the J. A. Higgenbotham farm, Murphy district; the E. E. Pope rig for No. 9

(Continued on Page 107)

KENTUCKY CONTINUES CURTAILMENT AFTER MEETING IN OWENSBORO

By Whit

OWENSBORO, Ky., Sept. 8.—A gathering of oil men was held in the Hotel Owensboro for a conference on the question of continuing the shutdown of operations in the Owensboro Field, which has been effective from July 21 until September 1. Presided over by Charles E. Curry, president of the Kentucky Oil & Gas Men's Association, operators in the western Kentucky field discussed the situation from every angle. The shutdown was continued indefinitely by the association in compliance with demands of the pipe line companies serving this field, the plea being made that the storage tanks of the pipe line companies were filled with surplus oil.

This field now is producing approximately 12,000 bbls. per day. No hint of a cut in price was brought out at the meeting and this is not anticipated as long as the operators keep the agreement. Pipe line managers assured the gathering there was too big a surplus to commence pouring in larger production, which undoubtedly would bring a reduction in the price of oil.

Drilling for gas will continue under contract and some wells will be continued to hold leases and contract wells will be drilled as required; but this will not hold more than 15 to 20 rigs, out of 100 or more that have been working in this section. Pumping will continue as heretofore of wells now connected with the pipe lines. This requires a goodly number of men over the entire field. Usually in such situations the restrictions are limited. The larger companies will do some wildcatting, or drill on fairly certain leases intending to shut down wells, if oil is found, until such time as the business opens up. The smaller operators, however, are unable to do this as they require proceeds from their wells, if drilled, to meet payrolls and other expenses incident to drilling operations.

Completed Wells

It can readily be seen what the shutdown movement has done, when Ohio County had but one completion since the last review of the county, and that was the Chester Oil Co.'s No. 6 on the G. W. Patton farm in the Buford area, reported with 100 bbls. initial production from the Stray sand.

In Daviess County but two completions were reported. The Eastern Gulf Oil Co.'s No. 5 well, near the southeast corner of the Rose B. Tyler 75 acres, in the Red Hill Pool, produced an initial of 40 bbls., and S. M. Sirman's No. 5 well, 600 feet from the south line and 900 feet from the east line of the H. K. Atherton farm, in the same pool, produced an initial of 25 bbls.

In the Pellville Field in Hancock County, Dug T. Bolling's test, 1,000 feet from the north line and 200 feet from the east line of the D. J. Crowe No. 2 farm, produced 80 bbls. the first 24 hours pumping, while his No. 1 on the Richard Crowe farm, shows very light. Duncan and Beeson's No. 1 in the northeast corner of the William Richardson farm, same field, came in a duster. H. C. Smith is in the sand at his No. 1 on the Virgil Crowe farm, but had not reached the pay sand. Chester Oil Co. is drilling a well on the William Bates farm, same field.

In the Calhoun Field of McLean County, James C. Ellis drilled a dry hole in No. 1 on the George Nichols farm.

In the Niagara Field of Henderson County, Ellis and Young's No. 1 F. Priest farm, produced 8 bbls. the first 24 hours, and the Niagara Oil & Gas Co.'s No. 1 Will Shemwell farm, produced 12 bbls. initial.

In the Morgantown Field of Union County, the most northwest county in the State, the Wood Oil Co. drilled a dry hole on the Walter Young farm.

In the Bowling Green Field of Warren County, Morrow H. Harp's No. 1 on the E. Morgan farm, along the bank of the Barren River, 10 miles north of Bowling Green, pumped 6 bbls. initial from the shallow sand at 531 feet.

EASTERN KENTUCKY

In District 15 of Powell County, in the eastern Kentucky Field, E. A. Farmer, trustee, drilled a 2-bbl. well on the McCoy-Rogers farm.

In the Weir Sand Field of Lawrence-Johnson Counties, the Swiss Oil Corp.'s No. 37 on the Mrs. Proctor Sparks farm, District 32, pumped 3 bbls. Same company's No. 38 Jess Lyons farm, pumped 5 bbls., and No. 57 P. H. Holbrook farm, same district, pumped 5 bbls. the first 24 hours from the Weir sand. Same company's No. 36 on the Sanford Lyons farm, District 33, same counties, pumped 5 bbls. from the same formation.

In Johnson-Magoffin Counties, Weir Sand Field, District 29, the Peoples Pittsburg Trust Co.'s No. 2 on the Carter Wheeler farm, pumped 3 bbls. from the Weir sand. Same company is starting No. 10 on the Paris Long farm, also in District 29. Structure Oil Co. is drilling No. 9 Ben Farrow farm, District 27, same counties.

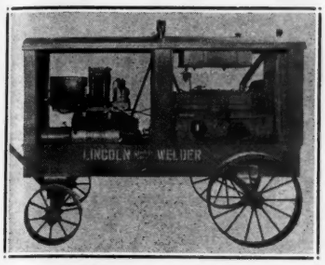
In Clay County, Petroleum Exploration Co. is drilling No. 1 on the General Spurlock farm, and starting No. 1 on the Nancy Jane Craft farm, same county. Same company is starting a well on the Lucy A. Nield farm, in Lester County.

Willard Rouse Jillson, state geologist of Kentucky, has just completed a map of Muhlenberg County showing the locations of wells already drilled.

Oil Field Equipment and Supplies

WELDER FOR FIELD USE INTRODUCED BY LINCOLN

A new gas-engine-driven welder with a rating of 400 amperes has been placed on the market by the Lincoln Electric Co., Cleveland, Ohio, manufacturer of "Stable



Arc" welders and "Linc-Weld" motors. The growing use of large-sized electrodes led to the development of this larger machine which is designed for field work in all kinds of construction such as oil and gas lines, field repairs, etc.

The welder is rated at 400 amperes with a current range up to 500 amperes and is of the variable-voltage single-operator type, operating at 1,500 r.p.m. The working mechanism of all controls is contained in a ventilated enclosed steel cabinet with hand regulators and switches mounted on a panel which forms a side of the cabinet. The control panel contains rheostat, diverter switch, voltammeter and wing nut terminals for cables. This unified control increases the simplicity of operation. The control cabinet is mounted directly over the generator for easy access by the welding operator. The commutator of both the welding generator and exciter are provided with covers for protection and also to prevent anything falling on and injuring the commutator.

A 6-cylinder engine with an S.A.E. rating of 33.75 and a brake horsepower at 1,500 r.p.m. of 55 drives the welder. The cylinder size is 3¾x5 with a total displacement of 330 cubic inches. The outfit is equipped with an automatic throttle control which permits the engine to idle at about half speed when the arc is not going. When the arc is struck the engine immediately comes up to full speed. Provision is made by a time delay to keep the engine going at full speed when the arc is momentarily broken and it will not slow down for a predetermined time interval after breaking the arc. This permits the operator to change electrodes, etc., without affecting the speed. However, if it is necessary for the operator to change position, etc., the slow down occurs. The effect of this throttle device is a saving in upkeep and also of gasoline consumption.

The whole equipment is provided with a metal cover with removable metal sides. The sides are interlocking so the cover and sides can all be locked with a padlock and key. The overall dimensions, exclusive of wheels are 104"x32"x 58" and the weight is approximately 3,500 pounds.

NEW G.E. MAGNETIC SWITCH

The General Electric Co. announces the CR-7006-T-5 oil-immersed magnetic switches for heavy-current duty in controlling large sizes of motors. The new switches supersede the General Electric CR-7006-T-3, 150-ampere magnetic switch. They consist of a three-pole, 200-ampere, oil-immersed contactor, a temperature overload relay, two current transformers and an undervoltage relay all mounted on a suitable floor-mounted framework, which is built with steel front.

AMONG THE EQUIPMENT HOUSES

The W. C. Norris Manufacturing Co., Tulsa, announces it will open a branch office in Los Angeles, Calif. The company already has branches in Fort Worth and Houston, Texas.

Champion & Barber, Inc., Los Angeles, Calif., have been appointed by the Naylor Pipe Co., Chicago, distributors in California, Nevada and Arizona of Naylor Spiralweld pipe for oil, gas and water lines.

The Wailes Dove-Hermiston Corp. has moved its Houston, Texas, office from 701 North San Jacinto Street to 1312 Petroleum Building. Irving A. Pfeil is manager.

D. A. Leach, formerly of the New York office of the Chicago Bridge & Iron Works, has been placed in charge of the office recently opened in the Exchange Bank Building, Tulsa.

R. M. Dinges, South American representative of the Continental Supply Co., with headquarters in Maracaibo, Venezuela, following a visit to the Oklahoma City Field, will leave soon for New York.

John A. Mussler, Tulsa representative of the Youngstown Sheet & Tube Co., has returned from a motor trip to Youngstown, Ohio, where he inspected his company's new electric weld pipe plant.

The Columbian Steel Tank Co., Kansas City, Mo., veteran manufacturer of truck tanks for the transportation of gasoline and oil, have added a new department for the building of Thermos-type semitrailer tanks for hauling milk from country depots to city dairy centers, it is announced by A. A. Kramer, president.

The Robert J. Miller company, district representative of the Fluid Pack Pump Co. and Shaffer Tool Works, has moved its headquarters from 12 Louisiana Avenue, Houston, Tex., to 401 Velasco Street, gaining more ample office and warehouse facilities.

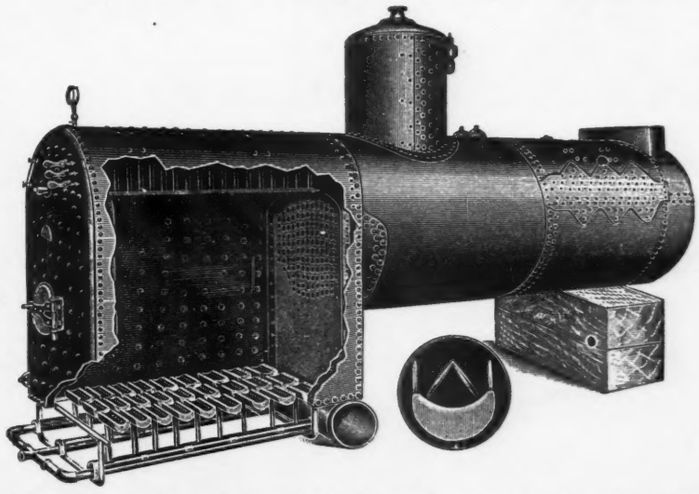
W. R. McGinnis has been engaged by the York Ice Machinery Corp., of York, Pa., to take charge of the refinery division of the refrigeration department of the company's business. Mr. McGinnis will specialize in aiding oil refining companies in the application of refrigeration to the process of refining petroleum.

The Chicago Pneumatic Tool Co., New York, has received an order for 19 265-horsepower CP gas engines for use on the Phillips pipe line, which will carry gasoline from various points in the Panhandle to Kansas City, St. Louis, etc. These engines will use commercial butane, a fuel produced by the Phillips Petroleum Co.

George M. Norman, technical director of the Hercules Powder Co., and A. B. Nixon, general manager of the cellulose products department, have gone to Europe, where Mr. Norman will attend the International Cellulose Conference, in Liege, Belgium, and Mr. Nixon will survey the market for American collodion cotton.

The Electric Machinery Manufacturing Co., of Minneapolis, Minn., recently received an order from the Shell Chemical Co. for 11 E-M synchronous motors, totaling 7,600 horse power, two 100-kw. synchronous motor generator sets and 13 synchronous motor control panels. This equipment is to be installed in the Shell's new nitrogen fixation plant at Martinez, Calif.

VOLCANO GAS BURNER ADAPTED FOR ANY SIZE BOILER



The Volcano gas burner, manufactured by the Volcano Burner Co., Tulsa, can be installed in boilers of any size, from the largest to the smallest. The illustration shows an installation in a 125-horsepower oil-well boiler with a working pressure of 350 pounds. The inset shows the action of the flame in this type of burner. According to the manufacturers, the following advantages are found in the Volcano burner: Perfect combustion, keeps steam on 3 to 300 pounds gas pressure, does not clog up with leaky firebox or flues, no fire brick or target to heat, no banking up around the rim, no screws or bolts, low maintenance cost, little noise, few parts, burner heads do not burn up, easily and quickly installed, fixed mixture and no adjusting.

Three wells, the manufacturers say, were drilled below 6,000 feet in the Oklahoma City Field with one burner, which was in perfect condition at the end of this service.

MEN KNOWN *in* THE EQUIPMENT FIELD

Timothy M. English, veteran California oil man, has been made manager of the oil field division of the Frank T. Hickey Co. of Los Angeles, Calif. Mr.

Timothy M. English

English's experience in the oil industry started in 1908 at Oil Center, Calif., when he joined the storekeeping staff of the Associated Oil Co. Since that time he has become widely known as a general equipment man, pipe line specialist, construction authority and sales executive. During the World War Mr. English served for two years as lieutenant in the machine gun division.

Mr. English's work with the Frank T. Hickey Co. will be in the sales of power shovels, ditchers, winches, hoists, cranes and a general line of industrial equipment.

BARBER-GREENE'S NEW CATALOG

For the first time the entire line of Barber-Greene materials handling machinery, from pipe line cutting to pouring concrete on building projects, has been put into a single book. This book, "The Barber-Greene Line," is a 32-page catalog handsomely printed and covered in black, with the big green standard Barber-Greene diamond as a cover design. It is a general review of all the various machines. A page is devoted to each, with a large posed photograph, a brief description, and general specifications and features. The book is prefaced by a two-page spread showing most of the machines in active operation, and a short introductory statement of the purpose of the Barber-Greene line. It says in part, "The Barber-Greene line is built around a very simple and very practical theory. It is to handle material continuously with standardized unit machines."

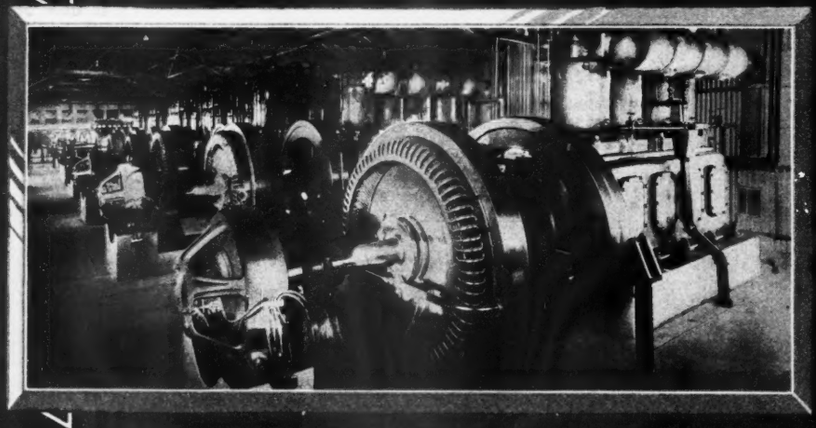
TRADE LITERATURE RECEIVED

A special bulletin has been published by Chicago Pump Co., Chicago, which gives a resume of a line of centrifugal pumps specially adapted to sewage disposal and water supply for municipalities.

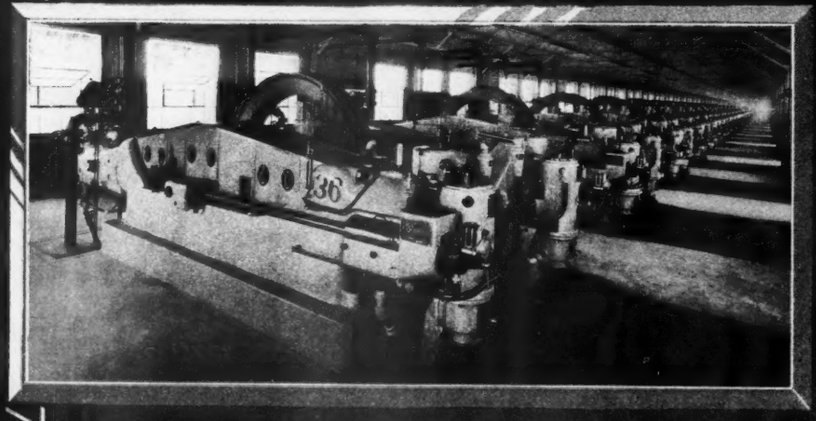
The Vanadium Corp. of America has issued a bulletin describing Alsifer, a steel deoxidizer.

FOR PROFIT
COOPER-BESS

Ten Cooper-Bessemer 1000 B. H. P. Type-22 gas engine compressors in Arkansas Natural Gas Corporation station near Sterlington, Louisiana. One of the largest plants of its kind in the world.



Largest electric power plant in the Southwest built exclusively for gasoline work. Four 200 B. H. P. and three 250 B. H. P. Cooper-Bessemer Vertical gas engines in Schafer power plant of Skelly Oil Co., in the Panhandle of Texas. Current operates water pumps and oil circulating pumps.

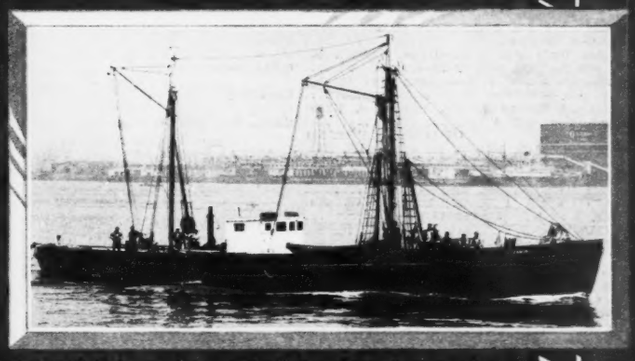


Largest gas lift and gasoline plant. Thirty-six Cooper-Bessemer Type-80 twin 170 B. H. P. gas engine compressors in the Sinclair Oil and Gas Company's natural gasoline plant No. 13 in the Seminole, Oklahoma oil field. Engine room is one-quarter mile long.

YOU'RE ALWAYS SAFE IN CHOOSING A COOPER-BESSEMER

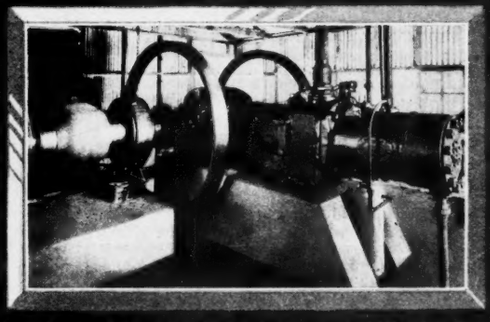
OR PLEASURE
SSEMER ENGINES

Far more than at any time since the drilling of Colonel Drake's well, oil and gas field men are now depending on Cooper-Bessemer 2 and 4-cycle gas engines and compressors to lower operating costs. The large and important installations — where reliability is a positive command — are Cooper-Bessemer. Today, too, on the outstanding work and pleasure boats — where economy is a law and performance must be faultless — Cooper-Bessemer diesel engines furnish main and auxiliary power.

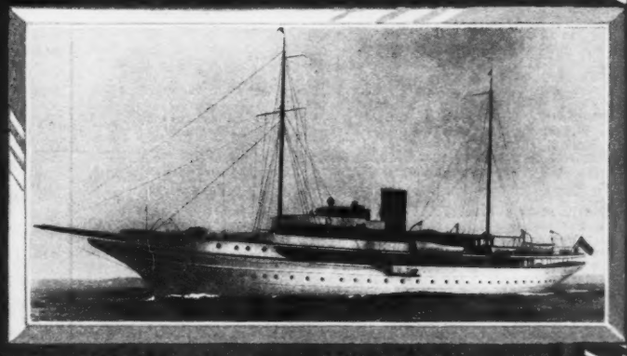


A. & P. Fish Co. modern trawler "Notre Dame" powered with 500 B. H. P. 6-cylinder Cooper-Bessemer Diesel.

"Grainmotor" — first motorship of Canada Steamship Lines. Powered with 765 B. H. P. 8 cylinder Cooper-Bessemer Diesel.



First Type O. F. engine in Seminole area with Timken bearings. Began 24-hour daily swabbing duty June, 1929. No record of shut-downs for adjustments or repairs. Home Gas Company well, St. Louis, Oklahoma. 50 B.H.P. engine.



Two 1500 B. H. P. and two 100 K. W. Cooper-Bessemer Diesels power H. E. Manville's modern yacht "Hi-Esmaro."

COOPER-BESSEMER CORPORATION, Mt. Vernon, Ohio — Grove City, Pa.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 46)

Calatex O. & G. Co.'s No. 1 Hudson, 2,395 ft. N, 660 ft. E. SW cor., Sec. 8-16-16.....Began drlg. Aug. 28, cmtd. 10-in. 140 ft.; drlg. 1,115 ft.

CADDO PARISH—OIL CITY

The Texas Co.'s No. 73 Levee Board, 1,642 ft. E, 780 ft. N, SW cor. SW SE, Sec. 27-21-16.....Location.

CADDO PARISH—PINE ISLAND

Bayou State Oil Co.'s No. 3 Barr, 300 ft. W, 275 ft. S, NE cor. SE SW, Sec. 30-22-15.....Cmtd. 6-in. 1,058 ft.

Shreveport Oil Corp.'s No. 1-A Muslow, 150 ft. S, 150 ft. E, NW cor., Sec. 32-21-15.....Cmtd. 8-in. 1,260 ft.; C.D.; rptd. drlg. 1,781 ft.

DE SOTO PARISH—HOLLY

Standard Oil Co.'s No. 2 Dowling Bros., 330 ft. S, 330 ft. W, NE cor. SW NE, Sec. 5-13-13.....W.O.S.R.; 8 ft. sandy shale; T.D. 2,848 ft.

LA SALLE PARISH—URANIA

Montugu Oil Co.'s No. 8 Zenoria Lbr. Co., 710 ft. S, 250 ft. W, NE cor., Sec. 10-9-1e.....W.O.S.R. 1,510 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 330 ft. S, NE cor., Sec. 2-20-4.....Location.

Grecian Bend Gas Co.'s No. 1 J. D. Sandidge et al, 660 ft. W, 1,980 ft. N, SE cor. NE, Sec. 2-20-4.....Location.

Greenwood Production Co.'s No. 1 Burrell, 713 ft. W, 1,033 ft. N, SE cor. NE, Sec. 21-20-4.....Rig up.

La. G. & F. Co.'s No. 26 Crossett, 645 ft. E, 674 ft. S, NW cor., Lot 9, Sec. 33-21-5.....Milling 6-in. csg. 2,195 ft; T.D. 2,380 ft.

Ouachita Nat. Gas Co.'s No. 2 Cole, 660 ft. S, 613 ft. W, NE cor., Sec. 13-20-4.....Derrick.

Ouachita Nat. Gas Co.'s No. 6 Sandidge, 732 ft. S, 1,209 ft. W, NE cor. SE, Sec. 23-20-4.....Cmtd. 6-in. 2,098 ft.

Ouachita Nat. Gas Co.'s No. 7 Sandidge, 1,047 ft. N, 694 ft. E, SW cor. NW, Sec. 24-20-4.....Location.

Southern Carbon Co.'s No. 13 Tensas, 660 ft. S, 1,320 ft. W, NE cor., Sec. 4-20-4.....Cmtd. 8-in. 875 ft.

OUACHITA PARISH

Amalgamated Co.'s No. 1-B Kate Cole, 660 ft. N, 660 ft. E, SW cor. NE SW, Sec. 25-20-4.....Cmtd. 12-in. 174 ft.; drlg. 835 ft.

Ark.-La. P. L. Co.'s No. 5 McEnery, 1,310 ft. S, 1,040 ft. E, NW cor. NE NW, Sec. 28-19-4.....Cmtd. 6-in. 2,144 ft.

Greenwood Prod. Co.'s No. 1 White, 1,306 ft. W, 660 ft. N, SE cor. NW NE, Sec. 36-19-3.....Location.

Industrial Gas Co.'s No. 3 Fee, 541 ft. S, 531 ft. E, NW cor. NE SW, Sec. 6-18-4.....Began drlg. Aug. 30, cmtd. 12½-in. 143 ft.

Jordan Drlg. Co.'s No. 7 Cole, 265 ft. S, 1,459 ft. W, NE cor., Sec. 49, in Sec. 50-18-4.....Location.

Jordan Drlg. Co.'s No. 1 J. P. Parker, 950 ft. N, 485 ft. W, cor. Secs. 41, 9 and 16, in Sec. 41-18-4.....Shut down 2,028 ft.

Jordan Drlg. Co.'s No. 1 School, 216 ft. S, 244 ft. W, NE cor. NW, Sec. 16-18-4.....Location.

Magnolia Pet. Co.'s No. 1 Breard, 550 ft. N, 660 ft. W, SE cor. NW NE, Sec. 15-18-4.....Drlg. shale 2,148 ft.

Pipes & Mack's No. 2 Union Gas Products Co., 296 ft. W, 528 ft. N, SE cor SW, Sec. 7-18-5.....Location.

United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4.....Location.

RICHLAND PARISH

W. C. Feazel's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6.....Rig moved; derrick.

Franklin O. & G. Co.'s No. 1 Thompson, 660 ft. N, 165 ft. W, SE cor. NE, Sec. 14-16-6.....Location.

Hope Prod. Co.'s No. 1 J. E. Duff, 660 ft. N, 1,980 ft. W, SE cor., Sec. 15-16-6.....Drlg. 2,006 ft.

La. G. & F. Co.'s No. 1 Etheridge, 1,412 ft. S, 770 ft. E, NW cor. NE, Sec. 28-17-6.....Cmtd. 9-in. 875 ft. drlg. sandy shale 1,583 ft.

Northern La. Nat. Gas Co.'s No. 5-B McCoy, 1,650 ft. S, 660 ft. W, NE cor., Sec. 17-16-6.....Cmtd. 12½-in. 177 ft.; 8-in. 890 ft.

Northern La. Nat. Gas Co.'s No. 1 McKay, 681 ft. W, 559 ft. N, SE cor. SW, Sec. 22-16-6.....Cmtd. 6-in. 2,380 ft.

Palmer Corp.'s No. 1-B Boykin, 177 ft. S, 787 ft. E, C, Sec. 33-17-6.....Derrick.

Palmer Corp.'s No. 1 Noble, 1,660 ft. E, 887 ft. N, SW cor., Sec. 25-16-6.....Shut down to repair leaky 6-in. csg.; T.D. 2,450 ft.

Palmer Corp.'s No. 1 Rhymes-Earle, 1,980 ft. S, 1,394 ft. W, NE cor., Sec. 36-17-5.....Derrick.

Palmer Corp.'s No. 2 Rhymes-Earle, 3,486 ft. W, 1,327 ft. S, NE cor., Sec. 36-17-5.....Location.

Palmer Corp.'s No. 10 Rhymes-England, 1,245 ft. S, 700 ft. W, NE cor., Sec. 7-16-6.....Location.

Palmer Corp.'s No. 11 Rhymes-England, 2,033 ft. W, 660 ft. S, NE cor. NE, Sec. 12-16-5.....Derrick.

Richland Prod. Co.'s No. 3 M. L. McCoy, 1,980 ft. S, 662 ft. W, NE cor., Sec. 29-16-6.....Cmtd. 6-in. 2,300 ft.

Southern Carbon Co.'s No. 1 J. A. Clements, 1,320 ft. S, 1,980 ft. W, NE cor. Sec. 10-16-6.....Location.

Southern Carbon Co.'s No. 1-B Hallock, 1,622 ft. N, 990 ft. W, SE cor. NW, Sec. 1-16-6.....Began drlg. June 12; cmtd. 12-in. 185 ft., 8-in. 865 ft.

Southern Carbon Co.'s No. 1 G. Harris, 10 ft. S, 660 ft. W, NE cor., Sec. 10-16-6.....Location.

Southern Carbon Co.'s No. 1-C Hemler, 1,164 ft. S, 888 ft. W, NE cor., Sec. 14-16-6.....Location.

Southern Carbon Co.'s No. 2-C M. L. McCoy, 1,880 ft. N, 5,024 ft. E, SW cor., Sec. 1-16-6.....Began drlg. Aug. 29, cmtd. 12-in. 195 ft.

Southern Carbon Co.'s No. 6 F. B. and E. A. Sartor, 2,640 ft. N, 2,031 ft. W, SE cor., Sec. 24-16-5.....Cmtd. 6-in. 2,285 ft.

Southern Carbon Co.'s No.1-B H. L. Thomason et al, 2,310 ft. W, 100 ft. S, NE cor., Sec. 23-16-6.....Cmtd. 6-in. 2,285 ft.

Southern Carbon Co.'s No. 1-C Thomason, 1,980 ft. N, 1,400 ft. W, SE cor., Sec. 14-16-6.....Location.

Southern Carbon Co.'s No. 1-D Thomason, 1,320 ft. S, 660 ft. W, NE cor., Sec. 31-16-6.....Drlg. shale, boulders, 2,292 ft.

United Carbon Co.'s No. 1 Boughton, 3,244 ft. E, 4,693 ft. N, SW cor., Sec. 1-16-6.....Location.

United Carbon Co.'s No. 1 Noble, 530 ft. W, 1,255 ft. S, cor. Secs. 5, 6 and 37, in Sec. 37-15-6.....Cmtd. 6-in. 2,285 ft.

United Carbon Co.'s No. 1 L. Williams, 1,980 ft. S, 1,980 ft. W, NE cor. Sec. 33-16-6.....Location.

SABINE PARISH—PLEASANT HILL

Ark. Fuel Oil Co.'s No. 14 Logan, 1,035 ft. N, 241 ft. W, C, Sec. 33-10-12.....W.O.S.R.; 8-ft. sand; T.D. 3,330 ft.

F. A. Bartlett, Jr.'s No. 1 Logan, 200 ft. S, 200 ft. E, NW cor., Sec. 27-10-12.....Drlg. 514 ft.

A. C. Glassell's No. 1 Logan Oil Co., 300 ft. E, C, Sec. 33-10-13.....S.D. wtr; T.D. 1,710 ft.

SABINE PARISH—ZWOLLE

Ark. Fuel Oil Co.'s No. 1 Susie Russell, 330 ft. N, 330 ft. E, SW cor. E½ NW NE, Sec. 26-8-12.....Rig up.

Tom Davis' (was T. D. Allison's) No. 1 Holliday, Sec. 31-8-12, Zwolle Townsite.....S.D. wtr. 1,350 ft.

F. M. Hood's No. 1-B (was No. 2) Winston, 700 ft. E, 425 ft. S, NW cor., Sec. 31-8-12, Zwolle Townsite.....S.D. 1,065 ft.

Huber & Mann's No. 1 Newton, 330 ft. S, 330 ft. E, NW cor. NE SW, Sec. 25-8-12.....Cmtd. 6⅝-in. 2,260 ft.; drlg. 2,333 ft.

Ab Jones et al's No. 1 Ferguson, 330 ft. N, 330 ft. W, SE cor. NE SW, Sec. 33-8-12.....Rig up.

Lacey Pet. Co.'s No. 1 Tatum, 350 ft. W, 200 ft. N, SE cor. SW NE, Sec. 26-8-12.....Drlg. shale 2,128 ft.

Lacey Burkett Co.'s No. 1 Danna, 316 ft. E, 200 ft. S, C, Sec. 26-8-12.....Cmtd. 10-in. 105 ft.; drlg. 560 ft.

Lanier & Tarver's No. 1 Newton, 530 ft. S, 530 ft. E, NW cor. NW SW, Sec. 35-8-12.....Began drlg. Aug. 23; cmtd. 10-in. 90 ft; S.D. wtr.

Loring Oil Co.'s No. 10 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor. NE SE, Sec. 33-8-12.....S.D. 2,664 ft.

Loring Oil Co.'s No. 12 Bowman-Hicks, 330 ft. S, 345 ft. W, NE cor. SE NE, Sec. 33-8-12.....Coring shale 2,330 ft.

Loring Oil Co.'s No. 2 Sabine Lbr. Co., 1,430 ft. E, 340 ft. N, C, Sec. 34-8-12.....100 ft. oil in hole; fishing 2 joints D.S.; T.D. 2,600 ft.

Loring Oil Co.'s No. 1 Schuffert, 330 ft. S, 330 ft. W, NE cor. NE SE, Sec. 27-8-12.....100 ft. oil; bailing to test; T.D. 2,420 ft.

Loring Oil Co.'s No. 2 Schull, 957 ft. E, 330 ft. S, NW cor. SW, Sec. 26-8-12.....Top chalk 2,389 ft.; cmtd. 6-in. 2,320 ft.; drlg 2,391 ft.

Ohio Oil Co.'s No. 5 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor., Sec. 33-8-12.....Bailing to test, 2,684 ft.

W. D. Perritt et al's No. 1 Elliott, 150 ft. N, 150 ft. E, SW cor. SW SE SW, Sec. 30-8-12.....W.O.S.R., 1,300 ft. oil; T. D. 2,364 ft.

Philp Bros.' No. 1 Dow, Lot 1, Blk. 18, Zwolle Townsite, Sec. 31-8-12.....Bailed dry 2,300 ft; S.D.

Posey et al's No. 1 Peterson, Blk. 16, Zwolle Townsite, Sec. 31-8-12.....S.D. 250 ft.

Pugh-Hickman Drlg. Co.'s No. 1 Sabine Lbr. Co.'s 350 ft. N, 350 ft. E, SW cor. NW NE, Sec. 34-8-12.....Derrick.

A. H. Tarver et al's No. 2 Sabine State Bank, 300 ft. N, 300 ft. E, SW cor. NW, Sec. 26-8-12.....Comp. June 1; prod. 45 bbls. 2,327 ft; O.W.D.D; drlg. Aug. 28, 2,370 ft.; S.D. W.O. 2,400 ft.

The Texas Co.'s No. 1 Giauque, 1,670 ft. E, 260 ft. N, SW cor., Sec. 27-8-12.....Top marl 2,273 ft; cmtd. 6⅝-in. 2,275 ft.; tested dry at 2,422 ft.; W.O.

Wheatcroft et al's No. 1 Sabine Lbr., Co., SW NE, Sec. 31-8-12.....S.D. 2,495 ft.

SABINE PARISH—BLUE LAKE

R. L. Gay's No. 8 Bowman-Hicks, Sec. 18-7-13.....S.D. 2,552 ft.

R. L. Gay, trustee's No. 5 Sabine Lbr. Co., 330 ft. S, 330 ft. W, NE cor. SE NE, Sec. 15-7-14.....Drlg. 2,270 ft.

UNION PARISH

Industrial Gas Co.'s No. 5 Grayling Lbr. Co., 660 ft. E, 660 ft. S, NW cor. NE, Sec. 28-21-4.....Location.

Industrial Gas Co.'s No. 6 Grayling Lbr. Co., 660 ft. E, 665 ft. N, SW cor. NW, Sec. 33-21-4.....Began drlg. Aug. 27, cmtd. 12¾-in. 177 ft.; 9-in. 860 ft.

Interstate Nat. Gas Co.'s No. 1 J. M. Edwards, 1,980 ft. W, 669 ft. S, NE cor., Sec. 11-21-3.....Rig up.

Nemours Corp.'s No. 2 Hollis, 317 ft. S, 995 ft. W, NE cor. NW, Sec. 11-20-3.....Cmtd. 8-in. 860 ft.; drlg. 2,010 ft.

WEBSTER PARISH—SAREPTA AND SHONGALOO

Ideal O. & G. Co.'s No. 1 Coyle, 300 ft. N, 300 ft. E, SW cor. SW SE, Sec. 24-23-11.....Derrick.

H. M. Jones Drlg. Co.'s (was E. W. Bateman's) No. 2 Cook, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 2-22-11.....14-ft. sand; W.O.S.R. 2,727 ft.

H. M. Jones Drlg. Co.'s No. 1 Womble, 860 ft. S, 200 ft. E, NW cor. SW, Sec. 1-22-11.....Derrick.

Liggett et al's No. 1 Slack, 720 ft. E, 150 ft. N, SW cor. SE, Sec. 36-23-11.....W.O.S.R; 5 ft. sand; T.D. 2,739 ft.

Liggett et al's No. 2 Slack, 720 ft. E, 150 ft. N, SW cor. SE SE, Sec. 36-23-11.....S.D. 2,618 ft.

Magnolia Pet. Co.'s No. 2 Sally Coyle, 150 ft. N, 150 ft. W, SE cor. SE NE, Sec. 2-22-11.....W.O.S.R. 2,712 ft.; 6 ft. sand.

Merrick Oil Corp.'s No. 3 Slack, 330 ft. N, 330 ft. W, SE cor. SW SE, Sec. 36-23-11.....Derrick.

Sarepta Oil Co.'s No. 3 Gardner, 396 ft. N, 78 ft. E, SW cor. NW NW, Sec. 6-22-10.....Derrick.

W. O. Neely's No. 1 J. R. Slack, 150 ft. N, 150 ft. E, SW cor., Sec. 12-22-11.....Location.

Sarepta Oil Co.'s No. 2 Gardner, NE SW, Sec. 1-22-11.....Rig up.

Sarepta Oil Co.'s No. 1 Slack, SW cor. NW NE, Sec. 36-23-11.....Rig up.

Southern Prod. Co.'s No. 4 Slack, 600 ft. N, 600 ft. W, SE cor. NW NE, Sec. 1-22-11.....Cmtd. 6-in. 2,735 ft.; W.O.S.R. 6 ft sand; T.D. 2,745 ft.

Service Drlg. & Royalties Co.'s No. 4 Waller estate, 330 ft. N, 330 ft. E, SW cor., Sec. 21-23-11.....Shut down 3,480 ft.

ARKANSAS

JOHNSON COUNTY

Conn Grable's No. 1 Hoeing, 720 ft. N, 590 ft. W, SE cor., Sec. 20-9-25.....Drlg. hard sand 2,236 ft.

OUACHITA COUNTY—SMACKOVER

L. H. Hamilton's No. 3 Doyle, 100 ft. E, 400 ft. N, SW cor. SE SE, Sec. 23-15-16.....Derrick.

Wilson & Chapman's No. 1-A Arnold, 330 ft. N, 330 ft. E, SW cor. NE SW, Sec. 24-15-16.....Rig up.

UNION COUNTY—CHAMPAGNOLLE

Ohio Oil Co.'s No. 10 Crain, 330 ft. S, 330 ft. W, NE cor. SE SW, Sec. 1-17-14.....Derrick.

Ohio Oil Co.'s No. 2 R. Furlough, 330 ft. N, 330 ft. E, SW cor. NE, Sec. 12-17-14.....Cmtd. 6⅝-in. 2,965 ft; drlg. 3,984 ft.

Ohio Oil Co.'s No. 4 R. Pumphrey, 330 ft. S, 330 ft. W, NE cor. NE NW, Sec. 12-17-14.....Derrick.

Sundby et al's No. 2 Perdue, 75 ft. S, 150 ft. E, NW cor., Sec. 32-16-14.....S.D. 3,205 ft.

UNION COUNTY—EL DORADO

Malloy & Co.'s No. 7 Burns, SW cor. NW NW, Sec. 31-17-15.....Rig up.

Rice Drlg. Co.'s No. 1 Watley, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15.....Reported abd. 92 ft. Apr. 30, 1930; arranging to resume drlg.

EAST TEXAS

HARRISON COUNTY

Calatex O. & G. Co.'s No. 6 Agurs, 755 ft. N, 699 ft. W, Mile Post 27, in J. Womack Sur.....Location.

Shell Rock Pet. Co.'s No. 1 Oliver Dougherty, W. D. Burris Sur.....Shut down; brown chalk 3,520 ft.

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 2-A G. W. Brumble, 477 ft. W, 473 ft. S, NW cor., Jno. Womack Sur., in B. C Jordan Sur.....Fishing D.S.; T.D. 4,408 ft.

S. E. Bell et al's No. 1 Burnett Lbr. Co., center S. B. Hendricks Sur.....Cored 40 ft. sandy shale, showing oil; arranging cement 8-in.; T. D. 2,075 ft.

W. G. Banks et al's No. 1 Greeny-Kyle, C Greeny-Kyle 65 ac., Jas. Tippett Sur.....Location.

Knox et al's (was Jackson et al's) No. 1 Dunham, 150 ft. W, 150 ft. N, SE cor., M. I. Dunham 29 ac., in Chas. Haley Sur.....Shut down; W.O. 2,400 ft.

Nat. Gas Products Co.'s No. 3 Tom Moore, 889 ft. E, 7,928 ft. S, NW cor., B. C. Jordan Sur.....Cmtd. 6⅝-in. 4,400 ft.

Tex-La. Prod. Co.'s No. 1 O. M. Lawrence, Harrison Davis Sur.....Began drlg. Aug. 27; cmtd. 10-in. 160 ft; drlg. 512 ft.

The Texas Co.'s No. 11 G. W. Brumble, 2,314 ft. N, 700 ft. W, SE cor., E. F. Mitcheson Sur.....Drlg. 2,280 ft.

Doris Thomason's No. 15 Crenshaw, 1,992 ft. S, 2,305 ft. E, SW cor., Jno. Womack Sur., in B. C. Jordan Sur...Derrick.

Warren & Davis' No. 1 McNeese, 1,671 ft. S, 1,329 ft. E, NW cor., Abe Brooker Sur.....Derrick.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

EXTRACTING WAX WITH SOLVENTS

Could you locate for me some references covering processes in which a solvent is used for extracting wax from the lub oil cut?—C. N. O.

An article on the Solvent Extraction of Paraffin Wax, by John W. Poole, appeared in The Oil and Gas Journal, September 26, 1929, page 99, in which several abstracts from articles and patents were made. This follows:

Sullivan, McGill and French, Solubility of Paraffin Wax in Oil, Ind. Eng. Chem. 19, p. 1,042, in investigating the solubility of paraffin wax in Mid-Continent oils, came to three conclusions, all of which are important:

1. The solubility of wax in oil increases as the melting point of the wax decreases.

2. The solubility of paraffin wax in oil decreases with increasing viscosity of the solvent.

3. Difference of solubility due to difference in melting point of wax decreases with decreasing temperature.

Weber and Dunlap, Solubility of Paraffin Wax in Pure Hydrocarbons, Ind. Eng. Chem. 20, pp. 383-84, in their investigations of the solubility of paraffin wax in normal pentane, normal hexane, normal heptane, normal octane and isodecane quite conclusively substantiated the results of Sullivan, McGill and French. Their work shows a most decided decrease in solubility with increase in molecular weight, indicating more or less that equal mols of solvent dissolve equal quantities of wax. Their work suggest the possibility of separation using a close cut kerosene or close cut heavy naphtha as a selective solvent.

In connection with above work, United States Patent No. 1,562,425, Removing Wax from Hydrocarbon Oils, issued to A. Greenspar, is of interest. This patent states that "Kerosene is added to effect crystallization at 27-32° F. The oil is then separated from wax crystals and amorphous wax and kerosene distilled off until residue in still is a high grade cylinder stock.

Leaving the petroleum solvents, we find also some matter dealing with the use of other organic solvents. We find that Henderson and Ferris, Determination of Paraffin Wax in Crude Wax, Ind. Eng. Chem. 19, p. 2,624, found acetone and nitrobenzol to have good selective solvent qualities for oil over wax. Making use of this feature, they developed a method for the determination of paraffin wax in crude wax; a modification of which, considerably simplified in manipulation, the author made most satisfactory use of on Mexican products.

In a summary of investigations using isopropyl and secondary butyl alcohols, and acetone and mixes of above, Smith, Dewaxing of Paraffin Base Crude Oils, in The Oil and Gas Journal 26, No. 17,-146, reports that the constant boiling mix of isopropyl alcohol and water has no advantages over acetone but that the alcohol, dehydrated by solid NaOH and anhydrous $CuSO_4$, was an excellent solvent. Secondary butyl alcohol was claimed to give good results, as also were certain mixes with acetone. Temperatures other than those close to 32° F. were not investigated.

Finally, there are three patents, all of which have a definite bearing on the problem. First, "The Separation of Paraffin Wax from Oil," Canada 269, 444, R. E. Wilson, April 5, 1927, states that paraffin wax is separated from mineral oils by treating a thin composition containing such substances with a miscible liquid comprising isopropyl alcohol, which precipitates the bulk of the wax.

British Patent 276,658 states that trichloroethylene or other liquid making oil heavier than wax is added before centrifugal separation, and last of all United States Patent 1,669,151, May 8, 1927, states that steam refined stock is diluted with a solvent (e.g., methyl ethyl ketone) in which petrolatum is less soluble than in naphtha and the then diluted stock is chilled to separate petrolatum.

The third patent, United States 1,706,-120, issued also to R. E. Wilson, was issued in March, 1929, and states: "In order to remove petrolatum from oil it is mixed with benzol and acetone, cooled and the waxy material separated."

An article is soon to be published by the author on the solubilities of oil and paraffin wax in certain organic solvent.

PRINCIPLES OF THE HYDROGENATION PROCESS

Will you kindly explain the working of a hydrogenation unit, the charge used; that is, whether crude oil or residue from topping stills?—R. T. G.

Modern chemistry has been engaged with synthetic methods, or a building up of a complex body from the elementary and simpler substances. The greater part of this study has been confined to carbon compounds derived from coal tar and fats, and we have learned that many thousand different substances have been made and a great many more are possible because of the manner in which the elements carbon and hydrogen may be arranged or distributed within the molecule. Very often the chemist has found it difficult to change the grouping and thus produce a new substance, because the primary material has its full quota of hydrogen or some other element. Some compounds are quite easily changed by the introduction of bromine, oxygen, nitrogen, hydrogen, etc. This form of chemical change is known as bromination, oxidation, nitration, hydrogenation, etc.

An important use of hydrogenation has been for the hardening of certain animal and vegetable oils or fats for the preparation of food materials and the manufacture of soaps. These oily substances were not suitable for many uses because of their liquid condition. It was discovered that many of these liquids, or semiliquids, were deficient in hydrogen and when this element was introduced in the proper proportions under suitable conditions, that the material was changed to a solid. The explanation being that hydrogen enters the molecule to complete saturation. Heat, pressure, and the use of a catalyzer have been used.

The present hydrogenation process as suggested for the use in the petroleum industry makes use of the facts learned in the hydrogenation of the fatty oils. The first experiments of Doctor Bergius were started in Germany in 1913 and had for their object the manufacture of a motor fuel from coal. He found that if a mixture of coal and oil were heated at a temperature of approximately 850° F. in an atmosphere of hydrogen under a pressure of approximately 2,000 pounds to the square inch, that a yield of oil equivalent to 90 per cent of the charge was obtained. The reason that excessive cracking does not take place is that at the instant of decomposition the hydrogen enters into the molecule to complete the formation of a new substance. That is to say, it makes a saturated body in place of unsatured compounds.

Further investigations indicated that certain tars, carbonaceous materials, and petroleum residues were adapted to hydrogenation. It is the tendency at this time to look to the heavy fuel oils as the most promising material for hydrogenation; this is largely based on the results with the hydrogenation experiments with coal which have indicated that high grade lubricating oils may be made in this manner.

ACID RECOVERY FROM REFINERY SLUDGE

Would you kindly give an outline of the most important methods that are in use for recovering the acid from light oil and lubricating oil sludge?—E. L.

All of the systems now in use for the recovery of acid from refinery sludge are based on a water extraction with concentration by means of heat, and the separation of the tarry material. These processes make use of hot air, hot gases, steam and direct heat for the evaporation. The different steps take place within a closed system and sometimes under vacuum.

Dr. A. E. Dustan presented a paper before the World Power Conference in Berlin last June, in which he discussed acid recovery methods. The principles, as reported in the Petroleum Times, June 28, 1930, page 1,123, may be outlined: The initial sludge is called green sludge and is separated in open vessels by the addition of light oil sludge and water. The green sludge is floated by the water and weak acid, then the oil content is extracted by the use of sufficient acid oil from a previous treat. The steps are:

1. About 120 bbls. of acid oil or "top oil" are left in the kettle from the previous run to serve as a solvent for the green sludge when it is added.

2. The light oil sludge, 35 bbls., is placed in the kettle.

3. About 100 bbls. of hot water added to give a weak acid of approximately 24° Be., which is heavy enough to float the green sludge. This step completes the preparation of the kettle for the receipt of the green sludge.

4. The green sludge is then gravitated into the kettle in a batch of 235 bbls. During the draw, about two hours, live steam is used in the kettle to agitate and heat the mass.

5. About 175 bbls. of solvent oil are needed.

6. Then an additional 85 bbls. of hot water is added. During all this time the kettle is cooking with steam, the total cooking time being four to four and a half hours.

7. After the final water is added, the steam is cut off and the contents settled for three hours. Three layers are formed; at the bottom about 150 bbls. of 24° Be. acid, in the middle the wet sludge, and about 400 bbls. of top oil. The acid layer is drawn off.

8. The kettle is again thoroughly agitated for 10 minutes with live steam. After settling for one and one-half hours a second acid draw is made, yielding 70 to 90 bbls. These recookings are repeated until a good separation is obtained.

9. When all the weak acid has been separated by this treatment the middle "wet sludge" layer is drawn off to the acid pit, where any remaining weak acid may drain away.

10. About 285 bbls. of top oil are pumped out, leaving 129 bbls. for the next run.

The light oil sludge from the refining of kerosene, and similar distillates, is of a different character than that from lubricating oils. It is not so heavy, more liquid, of a tarish nature and with a pungent acid odor. On dilution with water it separates easily into several layers; the lower being dark colored acid. The upper layer contains a liquid resinous substance which is the polymerized and sulphonated product of the mixture of the original distillate and sulphuric acid. There is also a definite middle layer of acid esters and sulphonic acids, which may be removed by water washing.

TREATING BRIGHT STOCK FOR COLOR

We are making our bright stock from Oklahoma City crude treating with about 20 pounds of 98 acid per barrel to obtain color equal to an E stock after using 2 pounds of fullers earth per gallon. We wish to make the A stock as well but have been unable to get this color by using more acid and a second filtration. If you can give me any further information I will appreciate it.—H. C. K.

There is an axiom often expressed by the refiners of lubricating oil to the effect that "the color of lubricating oil is made in the still." If the separation of the lubricating fraction from the crude is not done with care it will be difficult to obtain a light colored bright stock by subsequent steps in the process. Large quantities of steam are required and the temperature cannot be permitted to go high enough to burn the oil.

As a rule the color of a lubricating oil drops with increase of acid but there are numerous conditions that must be under control. Some of these include the rate at which the acid is applied, temperature during contact with acid, and period of time that the acid is permitted to act. The degree of dilution and the quality of the naphtha used must be considered. Mechanical contacting with acid and the centrifugal separation of the sludge will tend to less loss and improved color when all other conditions are normal.

Contact filtration is gradually replacing chemical neutralization after the acid treatment because the very finely divided earths that are used in this method remove any traces of acid, sludge, particles of carbon, and chemical compounds that have an influence on color. Decolorization by contacting or by percolation depends on the quality and quantity of the clay used. Some refiners prefer to partially decolorize by the contact method, then dewax and obtain the final color by percolating through fullers earth. One important condition that frequently has been the cause of the loss of color, is that air should be excluded from the oil during the time it is in contact with the acid.

There are so many factors to be considered that without knowing all the numerous details involved nothing more than these general suggestions is possible. A series of experiments to eliminate all variables should be completed.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 46)

CONCORDIA PARISH

A. C. Glassell's No. 1 Pittsfield Plantation, N 9°, E 1,320 ft., SW cor., Sec. 41-8-10 ..... Blew out between 1,392-1,450 ft.; estimated 1,000,000 ft. gas; bridged; recmtd. 8¼-in. 1,370 ft; arranging to drill out cmt; T.D. 1,453 ft.

Joe Marr et al's No. 1 Maxwell, C. Sec. 35-3n-3e ..... 8-in. stuck at 1,300 ft.; T.D. 2,820 ft.

DE SOTO PARISH

Joe Burnham et al's No. 1 Mary Hood, 320 ft. W, 201 ft. S, NE cor. SE SE NE, Sec. 3-11-14 ..... Oil show 8 ft. sand; T.D. 2,360 ft; bailed dry; W.O.

J. W. Clark's No. 1 Tidwell, NW cor. NW, Sec. 22-13-14.. Rig up.

Gulf Ref. Co.'s No. 1 Dry, 2,390 ft. N, 200 ft. E, SW cor., Sec. 14-11-15 ..... Drlg. hard lime 3,287 ft.

S. A. Guy's No. 1 Dowling Bros., 469 ft. E, 382 ft. S, NW cor. NE, Sec. 31-14-14 ..... Derrick.

Bud Harrell's No. 1 Horton, 450 ft. E, 150 ft. N, SW cor., Sec. 4-11-11 ..... S.D. 1,060 ft.

Michlousanna O. & G. Co.'s No. 1 Payne, 410 ft. S, 398 ft. E, NW cor., Sec. 12-11-16 ..... S.D. 2,600 ft.

Odell & Lawton's No. 1 Tidwell-Tull, 300 ft. N, 600 ft. E, SW cor. NW, Sec. 11-13-14 ..... S.W; show gas 3,004 ft; cmtd. bottom.

Pelham & Bunby's No. 1 Rhodes, C S½ SE, Sec. 32-13-14 ..... 5 ft. sand, slight show oil 2,985-90 ft; arranging test.

Philp et al's No. 1 Talbot, 220 ft. S, 730 ft. W, NE cor. NW NE, Sec. 9-13-13 ..... Rig up.

R. O. Roy's No. 1 Nelson, 660 ft. S, 660 ft. E, NW cor., Sec. 36-15-13 ..... S.W; W.O. 2,700 ft.

R. O. Roy's No. 1 Wilcox, 660 ft. S, 660 ft. E, NW cor., Sec. 35-15-13 ..... Began drlg. Aug. 10; drlg. 900 ft.

JACKSON PARISH

El Dorado Chief O. & G. Co.'s No. 1 Sou. Advance Paper Bag Co., 225 ft. N, 275 ft. E, SW cor. SW NE, Sec. 35-15-4 ..... S.D. 1,400 ft.

LINCOLN PARISH

Ark. Fuel Oil Co.'s No. 1 Lewis & Co., 300 ft. N, 300 ft. W, SE cor. NW SE, Sec. 26-20-4 ..... Cmtd. 6⅝-in. 4,237 ft.; 1,000 ft. S.W. in hole; plugged back to 4,256 ft; tested dry; W.O; T.D. 4,292 ft.

MOREHOUSE PARISH

Pelican Nat. Gas Co.'s No. 1 Tensas Delta Land Co., 1,320 ft. N, 660 ft. E, NW cor., Sec. 17-18-6 ..... Cmtd. 12½-in. 318 ft; drlg. 1,581 ft.

NATCHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E, C, Sec. 28-9-10 ..... Cmtd. 8⅝-in. 2,224 ft.; T D. 2,270 ft.

J. W. Cooper et al's No. 1 Cooper, NW SW, Sec. 35-11-10. Drlg. 820 ft.

S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E, 350 ft. N, C, Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and S.W. 3 ft.; S.D. for orders; T.D. 2,536 ft.

Robeline O. & G. Co.'s No. 1 Winn, 558 ft. N, 348 ft. E, SW cor. SE, Sec. 7-8-9 ..... S.D. 1,600 ft.

RED RIVER PARISH

E. C. Lucas' No. 1 La. Pecan Co., Sec. 26-13-11 ..... Bailed down 1,000 ft.; blew in estimated 2,000,000 ft. gas and show oil; 17-ft. sand 2,476 ft.; testing.

Lucky Strike Oil Co.'s No. 1 Chaffraix, 200 ft. S, 200 ft. E, C, Sec. 33-12-10 ..... S.D. wtr. 1,550 ft.

Geo. L. Pace et al's No. 1 Clarkson, 200 ft. S, 200 ft. E, NW cor. NE, Sec. 30-12-9 ..... Drlg. 2,680 ft.

RICHLAND PARISH

Austin & McDonald's No. 1 Hunt, 594 ft. N, 660 ft. E, SW cor., Sec. 13-17-5 ..... D.S. test 5 ft. sand in Midway 2,156-76 ft., dry; drlg. 2,210 ft.

W. C. Feazel's No. 1 Landrum, 620 ft. N, 4,573 ft. E, SW cor., Sec. 6-16-7 ..... Derrick.

Island Gas Co.'s No. 1 Noe, 1,902 ft. N, 660 ft. W, SE cor., Sec. 3-16-5 ..... Shale and boulders 1,685 ft.

Palmer Corp.'s No. 11 Rhymes England Planting Co., 2,033 ft. W, 660 ft. S, NE cor. NE, Sec. 12-16-5..... Derrick.

SABINE PARISH

LeGrand Oil Co., Inc.'s No. 1 J. W. Hale, 200 ft. N, 200 ft. E, SW cor. NE NW, Sec. 1-7-13 ..... Location.

Lohman & Walker's No. 1 Hubley, 330 ft. N, 330 ft. W, SE cor. SE NE, Sec. 21-7-11 ..... D.S. test 2-ft. sand 1,356 ft., dry; W.O.

Lohman et al's No. 1 Wyatt Lbr. Co., 150 ft. S, 330 ft. E, NW cor. NE SW, Sec. 18-4-11 ..... Rig up.

Longoria et al's No. 1 Belton, 330 ft. S, 330 ft. E, C NE, Sec. 31-9-13 ..... Rig up.

Loring Oil Co.'s No. 1 Garner, 270 ft. N, 300 ft. E, SW cor. NW NE, Sec. 4-7-11 ..... Derrick.

Loring Oil Co.'s No. 1 Trammell, 250 ft. N, 250 ft. W, SE cor. SW NW, Sec. 4-7-11 ..... Derrick.

Magnolia Pet. Co.'s No. 1 Glauque, 484 ft. N, 390 ft. E, SW cor. NW SW, Sec. 26-7-14 ..... Drlg. chalk 2,292 ft.

McDaniels & Lieber's No. 2 Batson, 480 ft. S, 220 ft. E, NW cor. SW SE, Sec. 16-8-12 ..... Drlg. 1,330 ft.

C. D. Neff, trustee's No. 1 Turner, 1,170 ft. S, 180 ft. W, NE cor. NW, Sec. 4-7-11 ..... Location.

Paramount O. & G. Co.'s No. 1 Woolems, 330 ft. N, 330 ft. W, SE cor. NE NW, Sec. 11-6-12 ..... S.D. 2,225 ft.

Pelican Nat. Gas Co.'s No. 4 Louisiana Long Leaf Lbr. Co., 330 ft. S, 330 ft. W, NE cor. NW NE, Sec. 11-7-12 ..... Location.

Pelican Nat. Gas Co.'s No. 4 La. Long Leaf Lbr. Co., 300 ft. S, 300 ft. E, NW cor. NW SW, Sec. 4-7-11.... Coring shale 2,242 ft.

D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE, Sec. 18-9-12 ..... S.D. 3,280 ft.

H. T. Stacey et al's No. 1 Polly, NE cor. NE NE, Sec. 18-8-12 ..... Rig up.

TENSAS PARISH

Stovall Drlg. Co.'s No. 1 Miller, NE SW, Sec. 18-10-10.... Drlg. 1,030 ft.

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 ..... S.D. 2,300 ft.

WEBSTER PARISH

Coyle, trustee's No. 1 Frazer, 200 ft. N, 200 ft. E, SW cor. NE SE, Sec. 27-23-11 ..... Location.

J. P. Evans et al's No. 1 Crichton Co., NE cor. NW NE, Sec. 31-18-8 ..... D.S. test 1,750-1,841 ft., S.W; W. O; T.D. 1,853 ft.

ARKANSAS

CHICOT COUNTY

H. R. Smith's No. 1 Lytle, 660 ft. N, 660 ft. E, C, Sec. 31-18-3 ..... Rig up.

CLEBURNE COUNTY

Cosden Oil Co. of Ark.'s No. 1 Donophan, 100 ft. S, 660 ft. E, NW cor. SW SE, Sec. 19-9-10 ..... Cmtd. 8¼-in. 3,900 ft.

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 39-11-9 ..... Drlg. lime 2,700 ft; C.D; Reported fishing 2,870 ft.

COLUMBIA COUNTY

S. Y. Dorfman et al's No. 1 Merritt, 923 ft. S, 160 ft. W, NE cor. SE NW, Sec. 25-19-22 ..... Cmtd. 12½-in. 165 ft.; drlg. 650 ft.

FRANKLIN COUNTY

Red Bank Oil Co.'s No. 1 Edtin, SW cor., Sec. 33-10-26... Tested estimated 4,000,000 ft. gas; arranging to cement 6⅝-in. 3,759 ft.

GARLAND COUNTY

Givens et al's No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19 ..... Waiting on bailing line; T.D. 3,790 ft.

HOT SPRINGS COUNTY

Anisman et al's No. 1 Hinson est., NE NE, Sec. 19-4-16... Drlg. 810 ft.

J. R. Lockhart's No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 (reported in Grant County in error) ..... Derrick.

LAFAYETTE COUNTY

Crawford Drlg. Co.'s No. 1 Vaughn, 200 ft. S, 200 ft. W, NE cor. SE NE, Sec. 25-19-25 ..... Rig up.

LINCOLN COUNTY

B. F. Thompson, trustee's No. 1 McGhee, 330 ft. S, 150 ft. W, C, Sec. 8-8-7 ..... Rigging up.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32 ..... S.D. 2,502 ft.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26 ..... U.R. 5 3/16-in. 3,570 ft.; T.D. 3,610 ft.

MADISON COUNTY

J. W. Baxter's No. 1 Hallem, C NE SW, Sec. 17-16-26.... S.D. 540 ft.

MILLER COUNTY

Big Bill Oil Co.'s No. 1 Dean, 200 ft. N, 200 ft. E, SW cor. NW SW, Sec. 30-15-25 ..... Began drlg. Aug. 31; cmtd. 10-in. 161 ft.

East Texas Oil & Gas Co.'s No. 1 Harvey, 500 ft. E, 300 ft. S, NW cor. Sec. 2-15-26 ..... Derrick.

E. & F. Oil Co.'s No. 1 E. L. Beck, 200 ft. S, 200 ft. E, NW cor. SW, Sec. 36-15-26 ..... Began drlg. Aug. 30; cmtd. 10-in. 120 ft; drlg. 610 ft.

Lentz et al's No. 1 Dale, 300 ft. S, 300 ft. E, NW cor., Sec. 25-15-26 ..... O.W.D.D.; arranging to deepen; T.D. 2,842 ft.

Lentz et al's No. 2 Johnson, SE cor. NW, Sec. 24-15-16... Derrick.

OUACHITA COUNTY

Belmont et al's No. 1 Buck, SE cor. SE SW, Sec. 16-15-17. Drlg. 1,214 ft.

A. B. Turner, trustee's No. 1 Dave Brown, 220 ft. N, 220 ft. E, SW cor., Sec. 23-15-18 ..... Began drlg. Aug. 19; cmtd. 10-in 103 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14 ..... Location.

POPE COUNTY

Cosden Oil Co.'s No. 1 Mo. Pac. R.R., 660 ft. N, 660 ft. E, SW cor. NW SE, Sec. 13-9-19 ..... Drlg. hard sand 4,864 ft.

SCOTT COUNTY

Arkansas Valley Gas Co.'s No. 1 Turner, C SE SE, Sec. 27-5-30 ..... Location.

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26 ..... Straightening hole; T.D. 1,530 ft.

SEBASTIAN COUNTY

W. M. Greeson's No. 1 Spears, Sec. 9-7-29 ..... Tested S.W. 3,515 ft.; W.O.

Taveau Oil & Gas Co.'s No. 1 Moose, C NW SW, Sec. 27-8-30 ..... Location.

Mansfield Gas Co.'s No. 14 Fee, Lot 10, Sec. 1-4-31 ..... S.D. wtr. 1,027 ft.

Ozark Nat. Gas Co.'s No. 10 Weaver, 660 ft. N, 660 ft. W, SE cor. SE NE, Sec. 27-8-30 ..... Straightening hole; T.D. 2,640 ft.

Ozark Nat. Gas Co.'s No. 1 Bates, C SE NW, Sec. 28-8-30. Drlg. shale 800 ft.

UNION COUNTY

S. B. Hickman's No. 1 Hogg, 330 ft. S, 150 ft. E, NW cor. SE SE, Sec. 35-16-17 ..... Dry 1,987-2,079 ft.; fish. 2,157 ft.

Marine Oil Co.'s No. 2-B Thompson, Sec. 10-18-13 ..... Location.

Marine Oil Co.'s No. 1-F Winn, Sec. 10-18-13 ..... Drlg. 2,524 ft.

Modisette Drlg. Co.'s No. 4 Union Sawmill, 330 ft. W, 300 ft. N, SE cor., Sec. 14-18-14 ..... Location.

VAN BUREN COUNTY

Glenn Kohle et al, trustee's No. 1 Scalan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13 ..... S.D. 50 ft.

WASHINGTON COUNTY

Delbert & Graves' No. 1 Cunningham, Sec. 14-15-32..... S.D.; W.O. 602 ft.

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... S.D.; W.O. 1,650 ft.

Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32 U.R. 8-in. to T.D. 1,500 ft.

H. H. Taylor et al's No. 1 Runny, C NE SW, Sec. 1-13-19. Fishing 1,005 ft.

YELL COUNTY

Tegmeier & Luckett's No. 1 Falcon, Sec. 36-7-21..... Sidetracking 5 3/16-in. 4,120 ft.; T.D. 4,160 ft.

EAST TEXAS

BOWIE COUNTY

Joe Burnham et al's No. 1 G. W. Burnett, 150 ft. W, 400 ft. S, NE cor. G. W. Burnett 76 ac., in W. H. Janes Sur. ..... Began drlg. Aug. 28; S.D. 80 ft; title work.

Lee Timberlake's No. 1 Tidwell, 2,800 ft. N, 300 ft. W, SE cor., Jos. Eskell Sur. ..... D.S. test 2,585-2,661 ft; 17 jts fourbles mud, S.W., small show gas.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tract, in J. H. Murphy Sur. ..... Location.

CASS COUNTY

Phillips Pet. Co.'s No. 1 J. R. Olds, 300 ft. N, 170 ft. E, SW cor., J. A. Stephenson Sur. ..... Rig up.

John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 acres in K. E. Welborn Sur.. Began drlg. Aug. 28, drlg. 259 ft.

MARION COUNTY

W. D. Chew's No. 1 Fee, 2,350 ft. W, 1,275 ft. N, SE cor., W. J. Hamilton Sur. ..... Cmtd. 6-in. 2,270 ft; S.D; T.D. 2,532 ft.

P. E. Hussey's No. 1 A. A. Trammell, Chas. Lockhart Sur. ..... S.D. wtr. 1,334 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur..... S.D. 2,865 ft.

Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur..... Swedging; 2 jts. collapsed 8-in.; arranging to cement 6⅝-in. and packer 2,182 ft.

SABINE COUNTY

Benedum & Trees Oil Co.'s No. 1 Nona Mills Lbr. Co., Jas. Mason Sur. ..... Top chalk 2,822 ft; arranging D. S. test 2,955-60 ft.

SHELBY COUNTY

Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur..... Coring hard lime 5,350 ft.

G. R. Ridgeway's No. 1 G. D. Parker, 4,980 ft. E, 750 ft. N, SW cor., Jessie McKelvey Sur. ..... Derrick.

MISSISSIPPI

ADAMS COUNTY

A. C. Glassell et al's No. 1 Artonish, 75 ft. S, 75 ft. W, NE cor., Sec. 29-8n-2w ..... Coring below 2,000 ft.

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e.. Fishing 6-in. and tools 2,392 ft; T.D. 2,735 ft.

CLAY COUNTY

Ohio Oil Co.'s No. 1 Wells, NE cor. Sec. 16-15-5..... Location.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20-13-3 ..... Fishing 8¼-in. csg. 1,414 ft.

HINDS COUNTY

Big Block Oil Co.'s No. 1 Southern Christian Institute, C N½ NE, Sec. 30-6-4 ..... S.D. 1,910 ft.

Feazel O. & G. Co.'s No. 1 Millstein, NW cor. NW NW, Sec. 2-5-1e ..... Cmtd. 6⅝-in. 2,404 ft.

Gulf Ref. Co.'s No. 1 City of Jackson, 2,423 ft. N, 731 ft. W, SE cor., Sec. 10-5-1e ..... Cmtd. 10-in. 80 ft; drlg. shale 1,000 ft.

Gulf Ref. Co.'s No. 1 Crane, 660 ft. S, 660 ft. W, NE cor., Sec. 26-6-1e ..... Drlg. shale 2,337 ft.

Interior Oil Co.'s No. 1 Belhaven Heights, 1,165 ft. W, 614 ft. S, NE cor., Sec. 2-5-1e ..... Derrick.
Jackson Oil Co.'s No. 1 Central Cotton Oil Co., NW cor. SW NW, Sec. 3-5-1e ..... Rig up.
Jackson O. & G. Co.'s No. 1 Capital Land & Inv. Co., Sec. 29-6-1e ..... Drlg. 2,179 ft.
Jackson O. & G. Co.'s No. 2 Mays, SW cor. SE NE, Sec 2-5-1e ..... S.D; W.O. 2,737 ft.
Dr. Barney Kennedy's No. 1 Fee, 150 ft. E, 200 ft. N, SW cor. NE NE, Sec. 34-6-1e ..... Location.
Lefleur O. & G. Co.'s No. 1 Chadwick-Brown, 550 ft. S, 780 ft. W, NE cor. SW NW, Sec. 11-5-1e ..... Derrick.
Cleve Love et al's No. 1 Ridgeway-McGee, 100 ft. W, 500 ft. S, C, Sec. 2-5-1e ..... Cmtd. 10-in. 60 ft; drlg. 2,100 ft.
Love Pet. Co.'s No. 1 Crisler, 65 ft. W, 360 ft. S, NE cor. NW SW, Sec. 2-5-1e ..... Began drlg. Aug. 30; drlg. 1,300 ft.
Love Pet. Co.'s No. 1 Morton Lbr. Co., 100 ft. W, 200 ft. N, SE cor. SW SW, Sec. 34-6-1e ..... Derrick.
Miss. Pet. Co.'s No. 1 Baptist Orphanage, 175 ft. E, 130 ft. N, SW cor. SE SE, Sec. 28-6-1e ..... Derrick.
Miss. Pet. Co.'s No. 1 Solvent Investment Co., NE cor. NE SW SW, Sec. 14-5-1w ..... Began drlg. Sept. 2; drlg.
Miss-Tex Oil Co.'s No. 1 Negro Fair Assn., SW cor. NW SE, Sec. 28-6-1e ..... Drlg. shale 1,400 ft.
Mrs. Reeder et al's No. 1 State, SE cor. NW NW, Sec. 25-6-1e ..... W.O.; T.D. 2,905 ft.
Tri-State O. & G. Co.'s No. 1 Wilson, SW cor. SE NE, Sec. 23-6-1e ..... Derrick.
J. A. Weir et al's No. 1 Holliday & Ross, NW SE, Sec. 8-6-2e ..... S.D; W.O. 2,653 ft.
Universal Gas Co.'s No. 1 Sharbrough, SW cor. SE, Sec. 28-6-1e ..... Began drlg. July 29; S.D.; W.O. 88 ft.

HUMPHRIES COUNTY

E. S. Steele et al's No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w ..... Set 12½-in. 60 ft.; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E. NW cor. NE, Sec. 2-7-16 ..... Tested S.W. 3,252 ft.; S.D. 3,426 ft.
Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18 ..... S.D.; W.O.; sandy shale 2,826 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-16-14 ..... Derrick.

LAFAYETTE COUNTY

Banks-Goode et al's No. 1 May, 113½ rds. S, 26 rds. E. NW cor. SW, Sec. 22-10-1w ..... Derrick.

LINCOLN COUNTY

Lincoln O. & G. Co.'s No. 1 Pat Case, NE cor. NE, Sec. 21-3-6 ..... S.D.; W.O. 2,231 ft.

MADISON COUNTY

Barney Kennedy et al's No. 1 Raymond, 300 ft. E. 1,800 ft. N, SW cor., Sec. 32-7-2e ..... Cmtd. 12½-in. 706 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D. 2,912 ft.; bailer lost in hole
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19 ..... Shot 2,402-18 ft.; small S.O.; ran ranging to shoot 2,387-95 ft.
Associated Oil Co.'s No. 1 School, SW cor. SW SE, Sec. 16-15-17 ..... Began drlg. Aug. 26; S.D. 32 ft.
Park Bowser et al's No. 1 Cowart, second hole, Sec. 2-12-19 ..... S.D. 30 ft.

RANKIN COUNTY

Gulf Ref. Co.'s No. 1 Hartfield, 1,980 ft. S, 660 ft. E. NW cor., Sec. 7-5-2e ..... Cmtd. 9-in. 2,354 ft.
Millstein O. & G. Corp.'s No. 1 Hartfield, 1,000 ft. W, 62 ft. N, SE cor. NE, Sec. 12-5-1e ..... Derrick.
R. A. Moore et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e ..... S.D. 900 ft.
Interior Oil Co.'s No. 1 Moore, 660 ft. N, 660 ft. W, SE cor. NW NW, Sec. 28-6-2e ..... S.D. 900 ft.
Pearl River O. & G. Co.'s No. 1 Pate, 1,380 ft. N, 1,426 ft. W, SE cor., Sec. 12-5-1e ..... Drlg. shale 1,550 ft.
Dr. S. D. Raymond's No. 1 Graves, 1,810 ft. N, 3,210 ft. W. SE cor., Sec. 12-5-1e ..... Derrick.
Southern Pet. Co.'s No. 1 Investment, 2,170 ft. N, 1,790 ft. W, SE cor., Sec. 12-5-1e ..... Began drlg. Sept. 2; drlg.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-15 ..... S.D. 2,475 ft.; 2,350 ft. D.S. in hole; W.O.

YALOBUSHA COUNTY

Carter Oil Co. and J. W. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, Sec. 14-11-4 ..... Fishing 2,300 ft.

YAZOO COUNTY

Amerada Pet. Corp.'s No. 1 Doherty, SW SW, Sec. 24-12-2 ..... Drlg. sandy lime 5,133 ft.

ALABAMA

LAMAR COUNTY

Griggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... T.A. 1,740 ft.

LAUDERDALE COUNTY

A. D. Morton et al's No. 10 O'Neal est., Sec. 8-2s-13w ..... Cmtd. 12½-in. 125 ft.; drlg. hard lime 905 ft.

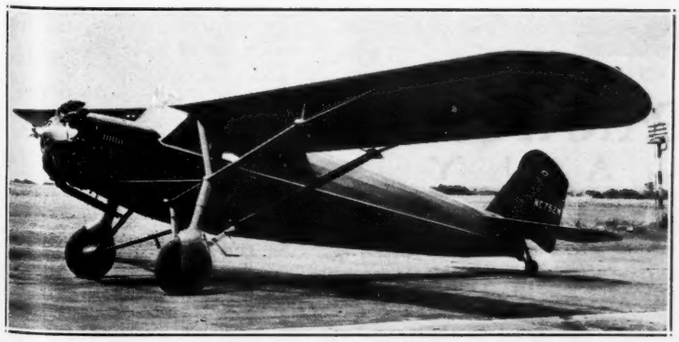
MARION COUNTY

Hobson et al's No. 1 John Clark, SE, Sec. 29-11-14 ..... Derrick pattern.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... S.D.; W.O.; flow at 1,450 ft.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... Fishing bailer; T.D. 881 ft.
Oscar Brown's No. 2 Land & Cotton Co., Sec. 25-3-2w ..... Drlg. 700 ft.

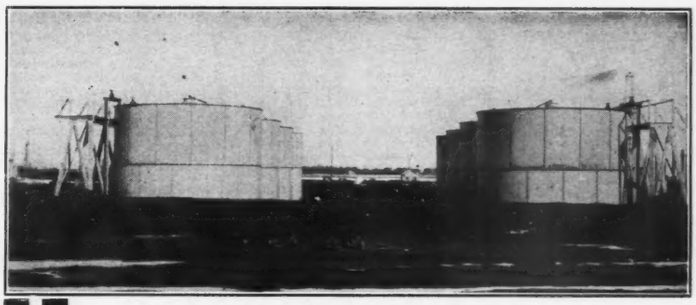
NEW SPARTAN PLANE DESIGNED FOR OIL COUNTRY USE



Especially designed for oil field use, the new four-place cabin monoplane manufactured by Spartan Aircraft Co., Tulsa, is now in production. The first one out of the factory has been sold to the Mexican Trading Corp., Mexico City. The cabin interior of the plane is exceptionally roomy and is finished in the manner of the higher priced automobile sedans. The ship is powered with a Wright seven-cylinder 225 horsepower motor and has a cruising speed of 110 miles per hour.

NEW GERMAN OIL FIND

A Rhenish drilling company has been investigating in Mecklenburg-Strelitz, Germany, and has found oil near New Brandenburg and Feldburg and in the large meadows near Friedland.



Eight 1,000-Bbl. Maloneys erected by distributer, Maloney Sales Corp., in the Oklahoma City Field.

MALONEY *Vapor-Pressure* TANKS

——12-gauge (or heavier) steel throughout

——half-inch special heat-treated bolts

——2x2 angle reinforcements

——2x2 angle ties

——wide gussets on ties and ladders

——efficient combination valves set at 16 ounces pressure and 2 ounces vacuum

——high grade aluminum paint

Our Vapor-Pressure construction makes money for you by preventing waste of oil and gas and by protecting your tank investment.

"Alone in Quality"

MALONEY TANK MFG. CO.
Tulsa, Okla., U.S.A.

Distributers at All Principal Petroleum Points

Maloney A.P.I. Bolted Steel Tanks conform with A.P.I. dimensional standards and carry the official A.P.I. monogram.

MADE OF AMERICAN

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY ALONE

OVER 5,000 BARRELS OF OIL
100,000,000 CUBIC FEET OF GAS

ANOTHER GOOD REASON

WHY PRODUCTION MEN ARE MORE AND MORE SPECIFYING THE NEW SMITH

This new well is one of the Oklahoma City Field's most prolific producers. Its location is 14-11-3s, Oklahoma City. At the time this photograph was taken, the well was making over 100 million cubic feet of gas and an average of 5,000 barrels of oil. The company that brought in this new well has chosen the New Smith as standard equipment on all its leases.

The New Smith is handling this production with 100% efficiency . . . not a single drop of oil has sprayed over the 8" riser pipes. The exclusive Smith feature, Mist Traps, is responsible for the exceptionally dry quality of the gas.

Go over and inspect this or any Smith-handled lease. You'll agree with one of our regular clients, who recently brought in a 50,000-barrel well, that "the New Smith is the best separator in the world."*

*Name on request.

Above: This is how the well looked as it came in. *Left:* How it looked fifteen minutes later when it was turned WIDE OPEN into the New Smith Separator. As indicated in the lower photograph, production men always feel safe when a New Smith is in control of large oil and gas producing wells.

SMITH SEPARATOR COMPANY
Tulsa Okla.

Oklahoma City, Okla.
Houston, Tex.
Fort Worth, Tex.

EXPORT OFFICE—OIL FIELD EQUIPMENT CO.,
30 Church St., New York

Pampa, Tex.
Midland, Tex.
Wichita, Kans.
Hobbs, New Mexico

California Distributors: California Machinery & Supply Co., 2449 Hunter St., Los Angeles, Cal.

IF IT'S WORTH DRILLING FOR, IT'S WORTH SAVING

AUGUST CROP OF OIL WELLS HIGH IN INITIAL PRODUCTION PER WELL

In August 1,888 wells were completed in the fields east of California with a total initial production of 1,146,527 bbls. The completions included 933 oil wells and the total initial production indicates an average of 1,228 bbls. per oil well in the whole territory. This is a very large average initial production for the vast area under consideration, but one field in Oklahoma may be credited with making it so high. In the Oklahoma City Field 66 new oil wells were credited with an initial production of 648,332 bbls., an average of 9,825 bbls. per well.

Only 49 per cent of the 1,888 wells completed were oil wells. The number of dry holes drilled was 660, or 35 per cent of the total number of completions. Gas wells numbered 295, representing 15.7 per cent which is an unusually high average.

Curtailment measures in all the major producing divisions, kept down the number of rigs and wells drilling, and a considerable falling off from the July totals is noted.

Summary of All Fields

Wells Completed

	Comp.	Prod.	Dry	Gas
Eastern	265	1,185	33	63
Central Ohio	112	1,172	35	45
Loma	16	179	3	5
Indiana	16	87	8	4
Michigan	20	1,274	5	2
Tennessee	3	0	0	3
Kentucky	97	2,211	31	22
Illinois	16	182	7	0
Kansas	101	16,404	35	27
Oklahoma	292	730,669	85	30
North Cent. Texas.	277	7,411	173	12
East. Cent. Texas..	30	101,330	9	2
East Texas	1	0	0	1
West Texas	76	55,675	27	0
Texas Panhandle..	80	27,400	8	25
Gulf Coast	136	46,987	46	1
Southwest Texas..	186	26,311	84	15
North Louisiana ..	70	1,723	30	27
Arkansas	9	670	4	1
Mississippi	7	0	3	4
Montana	35	815	20	5
Wyoming	20	1,704	6	1
Colorado	5	0	5	0
New Mexico	18	123,138	3	0
Total August	1,888	1,146,527	660	295
Total July	1,794	862,951	551	239
Difference	94	283,576	109	56

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Eastern	63	199	262
Central Ohio	55	143	198
Lima	2	31	33
Indiana	4	45	49
Michigan	56	128	184
Kentucky	4	131	135
Tennessee	1	14	15
Illinois	1	27	28
Kansas	52	203	255
Oklahoma	112	707	819
North Central Texas	53	295	348
East Central Texas	18	43	61
East Texas	9	14	23
West Texas	31	201	232
Texas Panhandle	38	129	167
Gulf Coast	25	160	185
Southwest Texas	112	171	283
North Louisiana	55	117	172
Arkansas	13	36	49
Mississippi	13	31	44
Alabama	2	3	5
Montana	21	86	107
Wyoming	28	120	148
Colorado	13	82	95
New Mexico	27	110	137
Utah	1	29	30
Total August	809	3,255	4,064
Total July	881	3,558	4,439
Difference	72	303	375

KANSAS FIELDS

Summary of Completed Wells

County—	Comp.	Prod.	Dry	Gas
Butler	12	330	8	0
Cowley	4	70	2	1
Greenwood	11	1,975	3	1
McPherson	16	11,101	1	1
Marion	5	0	5	0
Morton	14	0	0	14
Sedgwick	4	1,876	1	0
Stevens	6	0	0	6
Sumner	3	110	0	0
Miscellaneous	26	1,842	15	4
Total August	101	16,404	35	27
Total July	70	14,938	32	1
Difference	31	1,466	3	26

Summary of Wells Drilling

County—	Rigs	Drlg.	Ttl.
Barber	1	5	6
Butler	2	11	13
Chase	0	1	1
Chautauqua	0	2	2
Clark	0	1	1
Clay	0	1	1
Coffey	0	1	1
Cowley	1	14	15
Dickinson	0	2	2
Douglas	0	1	1
Edwards	0	2	2
Elk	0	4	4
Ellis	2	5	7
Ellsworth	1	1	2
Ford	0	2	2
Geary	0	1	1
Greenwood	4	20	24
Gove	1	1	2
Graham	0	2	2
Grant	1	0	1
Harper	0	1	1
Harvey	2	0	2
Kingman	0	1	1
Kiowa	0	2	2
Lyons	0	1	1
McPherson	5	11	16
Marion	1	5	6
Morris	3	2	5
Morton	2	5	7
Norton	1	0	1
Osage	0	1	1
Pawnee	1	2	3
Pratt	0	1	1
Reno	2	5	7
Rice	2	17	19
Rooks	0	2	2
Rush	0	3	3
Russell	2	6	8
Saline	0	1	1
Sedgwick	11	15	26
Sheridan	0	1	1
Stafford	0	3	3
Stevens	4	25	29
Sumner	1	7	8
Trego	0	1	1
Wallace	0	1	1
Washington	0	1	1
Woodson	2	6	8
Total August	52	203	255
Total July	42	236	278
Difference	10	33	23

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Caddo	5	78	2	2
Carter	8	6,772	1	0
Creek	22	376	8	4
Hughes	8	0	4	4
Lincoln	7	3,609	4	1
Marshall	10	266	3	0
Muskogee	14	60	9	3
Oklahoma	67	648,332	1	0
Okfuskee	10	533	2	1
Okmulgee	13	272	4	1
Osage	25	1,147	6	4
Pawnee	4	25	1	1
Payne	5	1,817	3	0
Pontotoc	6	910	1	0
Pottawatomie	16	17,753	4	0
Seminole	37	22,667	13	1
Stephens	5	25	3	1
Tulsa	3	125	2	0
Wagoner	6	0	2	4
Miscellaneous	21	25,902	12	3
Total August	292	730,669	85	30
Total July	281	474,705	81	37
Difference	11	255,964	4	7

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Alfalfa	0	2	2
Atoka	0	1	1
Beckham	0	5	5
Blaine	0	1	1
Bryan	0	3	3
Caddo	3	20	23
Canadian	0	1	1
Cherokee	0	1	1
Coal	0	3	3
Carter	8	23	31
Cleveland	2	6	8
Comanche	2	4	6
Cotton	5	3	8
Creek	9	37	46
Garfield	0	7	7
Garvin	0	2	2
Grady	2	2	4
Greer	0	3	3
Grant	0	4	4
Harper	0	2	2
Harmon	0	1	1
Hughes	5	9	14
Haskell	1	3	4
Kay	2	8	10
Kiowa	0	2	2
Kingfisher	0	1	1
LeFlore	0	2	2
Lincoln	0	11	11
Latimer	0	1	1
Logan	1	4	5
Love	0	1	1
McIntosh	0	2	2
Marshall	0	5	5
Muskogee	5	30	35
Murray	0	4	4
Okfuskee	2	18	20
Oklahoma	29	306	335
Okmulgee	3	11	14
Osage	6	26	32
Pawnee	3	16	19
Payne	1	10	11
Pittsburg	2	6	8
Pontotoc	2	11	13
Pottawatomie	9	23	32
Roger Mills	0	1	1
Seminole	6	32	38
Stephens	3	9	12
Tulsa	0	11	11
Washington	0	1	1
Wagoner	1	9	10
Woods	0	2	2
Woodward	0	1	1
Total August	112	707	819
Total July	141	851	992
Difference	29	144	173

TEXAS PANHANDLE

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drig.	Ttl.
Carson	4	6	8	18
Gray	24	11	54	89
Hutchinson	4	5	19	28
Moore	1	1	3	5
Wheeler	3	4	6	13
Miscellaneous counties	2	8	4	14
Total August	38	35	94	167
Total July	31	36	119	186
Difference	7	1	25	19

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson	10	225	1	6
Collingsworth	1	0	1	0
Childress	1	0	1	0
Donley	1	0	1	0
Gray	45	26,380	3	3
Hutchinson	10	795	1	6
Moore	1	0	0	1
Motley	1	0	1	0
Wheeler	10	0	0	10
Total August	80	27,400	8	25
Total July	53	11,346	1	18
Difference	27	16,054	7	7

WEST TEXAS

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drig.	Ttl.
Crane	2	0	11	13
Crockett	1	2	1	4
Ector	1	8	12	21
Fisher	1	0	2	3
Glasscock	0	1	2	3
Howard	4	7	6	17
Irion	2	3	3	8
Jones	0	1	1	2
Pecos	9	10	20	39
Reagan	1	0	5	6
Upton	3	0	2	5
Ward	1	4	10	15
Winkler	1	4	2	7
Miscellaneous counties	5	51	33	89
Total August	31	91	110	232
Total July	45	77	158	280
Difference	14	14	48	48

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Andrews	1	25	0	0
Coke	2	0	2	0
Crane	7	1,330	1	0
Crockett	2	350	1	0
Ector	5	6,214	1	0
Fisher	4	850	1	0
Glasscock	6	3,592	1	0
Gaines	1	0	1	0
Howard	3	133	1	0
Hudspeth	1	0	1	0
Irion	2	60	1	0
Jones	1	50	0	0
Mitchell	2	75	1	0
Pecos	23	38,154	10	0
Reagan	5	1,715	2	0
Sterling	1	0	1	0
Terry	1	0	1	0
Upton	2	2,191	0	0
Ward	7	906	1	0
Total August	76	55,675	27	0
Total July	59	56,900	14	0
Difference	17	1,225	13	0

NORTH CENTRAL TEXAS

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drig.	Ttl.
Archer	13	13	13	39
Brown	2	7	4	13
Callahan	1	3	5	9
Coleman	4	7	21	32
Cooke	1	3	11	15
Clay	0	2	3	5
Eastland	4	10	13	27
Erath	0	4	2	6
Jack	0	0	6	6
Montague	0	2	4	6
Palo Pinto	4	6	6	16
Shackelford	2	3	6	11
Stephens	4	3	7	14
Throckmorton	1	1	5	7
Wichita	0	5	5	10
Wilbarger	1	12	2	15
Young	16	22	45	83
Miscellaneous counties	0	25	9	34
Total August	53	128	167	348
Total July	57	123	194	374
Difference	4	5	27	26

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Archer	50	1,059	26	0
Baylor	2	0	2	0
Brown	13	14	11	0
Callahan	7	0	6	1
Clay	3	0	3	0
Coleman	6	25	5	0
Comanche	3	0	2	1
Cooke	8	198	6	0
Denton	2	0	2	0
Eastland	11	273	2	6
Foard	1	0	1	0
Erath	2	0	1	1
Grayson	2	0	2	0
Haskell	1	0	1	0
Hood	1	0	1	0
Jack	5	0	4	1
Montague	1	0	1	0
Palo Pinto	7	11	4	1
Shackelford	10	692	3	0
Stephens	5	24	1	1
Throckmorton	6	0	6	0
Wichita	29	1,065	11	0
Wilbarger	16	138	11	0
Wise	1	0	1	0
Young	86	3,907	61	0
Total August	277	7,411	173	12
Total July	285	19,538	152	8
Difference	8	12,127	21	4

SCOUTHWEST TEXAS

Summary of Field Operations

	Comp.	Prod	Dry	Gas	Rigs	Drlg.	Ttl.
Mirando	67	3,929	17	7	23	33	61
Lasater	1	0	0	1	1	2	3
Dobrowolski	6	50	0	1	1	4	5
Pettus	22	4,305	10	3	16	20	36
Buchanan	1	0	1	0	0	0	0
Pettus-Goliad	2	0	2	0	1	0	1
Darst Creek	15	7,203	4	0	10	2	12
Adams Gas	1	0	1	0	0	0	0
Agua Dulce	2	0	2	0	1	0	1
Saxet	2	249	0	1	1	1	2
Chapman	26	9,550	11	0	17	18	35
Miscellaneous	41	520	36	3	36	91	127
Total Aug.	186	26,311	84	15	112	171	283
Total July	102	16,691	40	7	116	151	267
Difference	84	9,620	44	8	4	20	16

EAST CENTRAL TEXAS

Summary of Field Operations for August

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Anderson	2	0	1	1	1	0	1
Angelina	0	0	0	0	1	0	1
Burleson	1	0	1	0	0	0	0
Camp	0	0	0	0	1	0	1
Cherokee	0	0	0	0	1	0	1
Delta	0	0	0	0	0	2	2
Ellis	0	0	0	0	0	1	1
Fannin	0	0	0	0	0	2	2
Gregg	1	0	0	0	1	0	1
Henderson	0	0	0	0	0	3	3
Limestone	1	30	0	0	0	0	0
Morris	0	0	0	0	0	1	1
Nacagdoches	0	0	0	0	0	1	1
Navarro	2	0	2	0	0	1	1
Rains	1	0	1	0	0	0	0
Rusk	0	0	0	0	0	2	2
Smith	2	0	2	0	1	2	3
Van Zandt	21	101,300	2	1	12	28	40
Total Aug.	30	101,330	9	2	18	43	61
Total July	27	70,551	10	0	7	29	36
Difference	3	30,779	1	2	11	14	25

EAST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	*Rigs	Drlg.	Ttl.
Bowie	0	0	0	0	1	1	2
Camp	0	0	0	0	1	1	2
Cass	0	0	0	0	1	0	1
Harrison	0	0	0	0	1	1	2
Marion	0	0	0	0	0	2	2
Panola	1	0	0	1	4	5	9
Red River	0	0	0	0	0	2	2
Sabine	0	0	0	0	0	1	1
Shelby	0	0	0	0	1	1	2
Total Aug.	1	0	0	1	9	14	23
Total July	2	0	1	1	8	13	21
Difference	1	0	1	0	1	1	2

*Gas production: Panola, 5,000,000 feet.

ARKANSAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	*Rigs	Drlg.	Ttl.
Ashley	1	0	1	0	0	0	0
Calhoun	1	0	1	0	0	0	0
Chicot	0	0	0	0	1	0	1
Cleburne	0	0	0	0	0	2	2
Columbia	0	0	0	0	0	1	1
Drew	1	0	1	0	0	0	0
Franklin	0	0	0	0	0	1	1
Garland	0	0	0	0	0	1	1
Hot Springs	0	0	0	0	1	1	2
Johnson	1	0	1	0	0	1	1
Lafayette	0	0	0	0	1	0	1
Lawrence	0	0	0	0	1	0	1
Lincoln	0	0	0	0	1	0	1
Little River	0	0	0	0	0	1	1
Logan	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Miller	1	100	0	0	2	1	3
Nevada	0	0	0	0	0	1	1
Ouachita	0	0	0	0	1	6	7
Pike	0	0	0	0	1	0	1
Pope	1	0	0	1	0	1	1
Scott	0	0	0	0	0	1	1
Sebastian	0	0	0	0	0	4	4
Union	3	570	0	0	4	6	10
Van Buren	0	0	0	0	0	1	1
Washington	0	0	0	0	0	4	4
Yell	0	0	0	0	0	1	1
Total Aug.	9	670	4	1	13	36	49
Total July	13	198	7	1	14	37	51
Difference	4	472	3	0	1	1	2

*Gas production: Pope, 38,600,000 feet; Union, 5,000,000 feet; total, 43,600,000 feet.

NORTH LOUISIANA

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	*Rigs	Drlg.	Ttl.
Avoyelles	0	0	0	0	0	1	1
Bienville	1	0	1	0	2	2	4
Bossier	11	428	4	3	2	16	18
Caddo	6	133	2	1	4	4	8
Caldwell	0	0	0	0	0	1	1
Catahoula	2	0	2	0	0	1	1
Claiborne	1	0	1	0	0	3	3
Concordia	0	0	0	0	0	2	2
De Soto	3	5	2	0	3	9	12
Jackson	0	0	0	0	0	1	1
La Salle	1	30	0	0	0	2	2
Lincoln	0	0	0	0	0	1	1
Morehouse	5	0	2	3	5	4	9
Natchitoches	0	0	0	0	0	4	4
Ouachita	6	0	1	5	6	4	10
Rapides	0	0	0	0	0	1	1
Red River	0	0	0	0	0	3	3
Richland	14	0	2	12	14	16	30
Sabine	15	1,012	12	1	8	30	38
Tensas	0	0	0	0	0	2	2
Union	2	0	0	2	3	2	5
Webster	3	115	1	0	8	8	16
Total Aug.	70	1,723	30	27	55	117	172
Total July	87	11,719	14	37	72	124	196
Difference	17	9,996	16	10	17	7	24

*Gas production: Bossier, 14,867,000 feet;

(Continued on Next Page)

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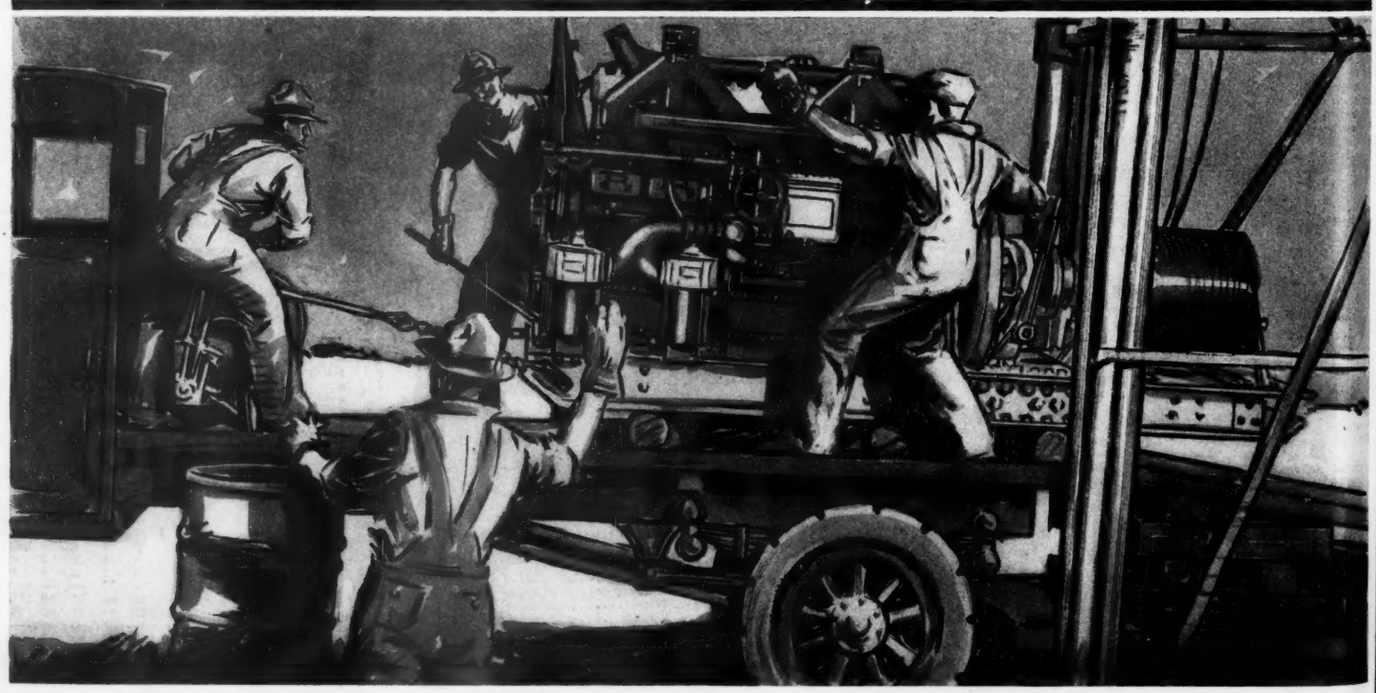
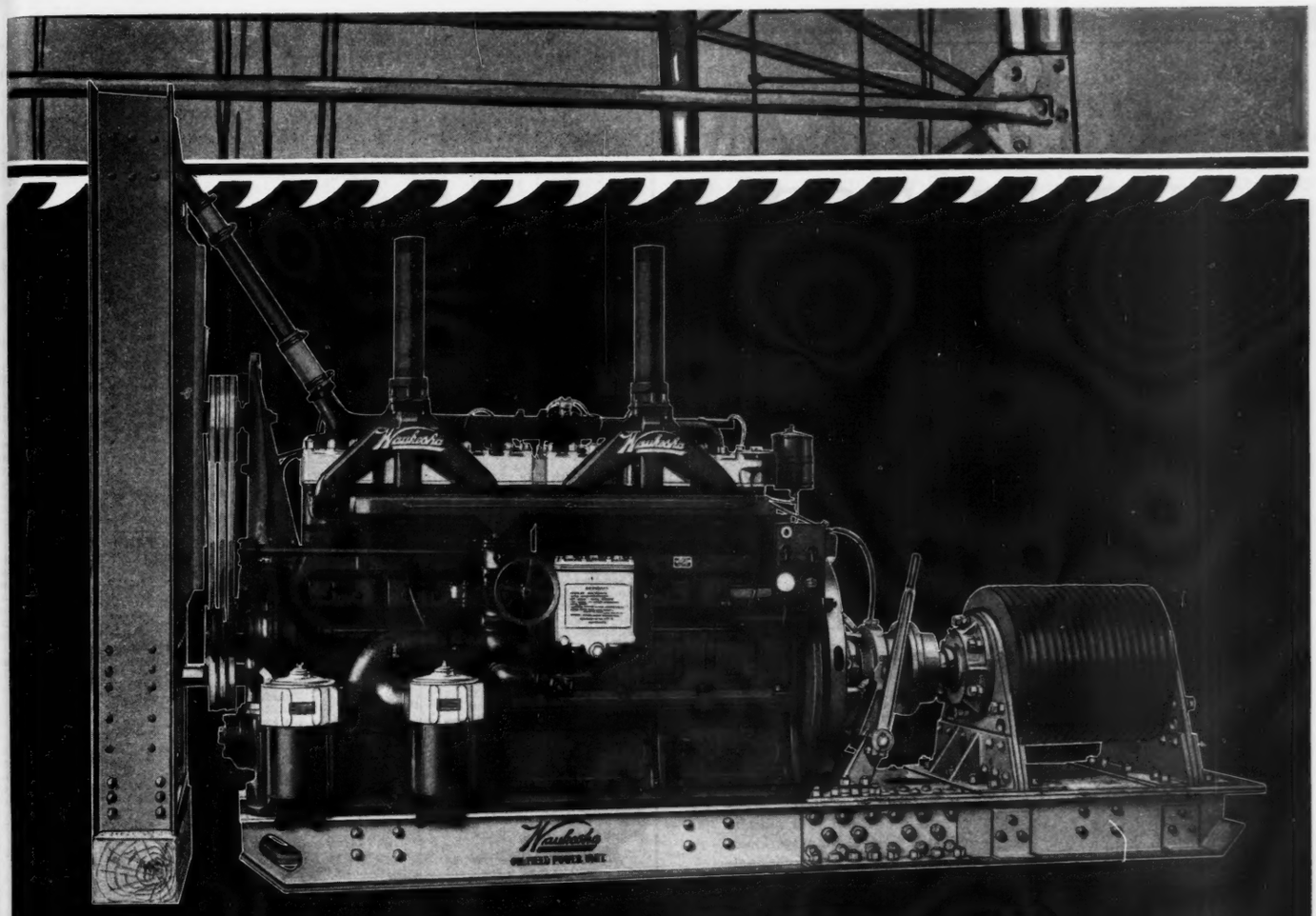
WAUKESHA





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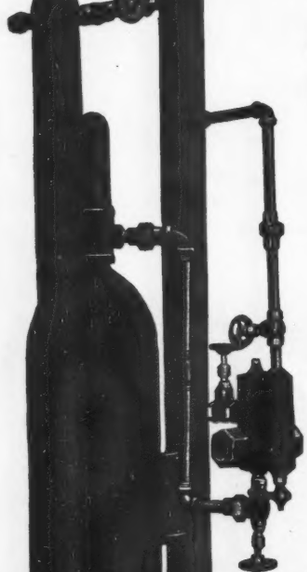

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Caddo, 11,242,000 feet; Morehouse, 44,621,175 feet; Ouachita, 56,956,000 feet; Richland, 369,165,900 feet; Sabine, 24,000,000 feet; Union, 5,763,000 feet; total, 526,615,075 feet.

MISSISSIPPI
Summary of Field Operations

	Comp.	Prod.	Dry Gas*	Rigs	Dlg.	Ttl.
Adams	0	0	0	0	1	1
Alcorn	0	0	0	0	1	1
Chickasaw	0	0	0	0	1	1
Hinds	5	0	2	3	9	13	22
Humphreys	0	0	0	0	1	1
Lafayette	0	0	0	1	0	1
Lauderdale	0	0	0	0	1	2	3
Lincoln	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Monroe	0	0	0	0	0	3	3
Rankin	2	0	1	1	2	3	5
Warren	0	0	0	0	0	1	1
Wilkinson	0	0	0	0	0	1	1
Yalobusha	0	0	0	0	0	1	1
Yazoo	0	0	0	0	0	1	1
Total Aug.	7	0	3	4	13	31	44
Total July	9	0	3	6	7	27	34
Difference	2	0	0	2	6	4	10

*Gas production: Hinds, 57,000,000 feet; Rankin, 60,000,000 feet; total, 117,000,000 feet.

GULF COAST
Monthly Summary of Field Operations

Southeast Texas

	Comp.	Prod.	Abd. Gas	Rigs	Dlg.	Ttl.
Barbers Hill	12	5,696	0	0	4	25	29
Batson	1	163	0	0	0	0	0
Big Creek	2	100	1	0	1	1	2
Blue Ridge	2	78	0	0	0	0	0
Boling	0	0	0	0	0	1	1
Clay Creek	1	300	0	0	0	1	1
Damon Mound	1	0	1	0	0	1	1
De Walt	1	1,200	0	0	0	0	0
Esperson	4	525	1	0	0	5	5
Fannett	1	0	1	0	0	0	0
Goose Creek	1	0	1	0	0	1	1
Hankamer	1	1,000	0	0	0	1	1
High Island	1	400	0	0	0	2	2
Hull	6	1,350	0	0	0	2	2
Humble	12	8,748	1	0	3	7	10
Liberty	0	0	0	0	0	2	2
Lost Lake	1	75	0	0	0	1	1
Markham	1	55	0	0	0	0	0
Nash	0	0	0	0	0	1	1
North Dayton	2	0	2	0	1	3	4
Orange	1	14	0	0	0	1	1
Orchard	2	1,200	0	0	0	2	2
Pierce Junc.	5	9,900	0	0	1	3	4
Port Neches	1	720	0	0	0	2	2
Raccoon Bend	3	1,160	0	0	1	3	4
Refugio	14	2,085	4	0	3	23	26
Saratoga	3	189	0	0	0	1	1
Sour Lake	1	250	0	0	1	0	1
Spindletop	7	3,428	2	1	0	5	5
W. Columbia	0	0	0	0	0	1	1
Miscellaneous	10	0	10	0	3	25	28
Total Aug.	97	38,636	24	1	18	120	138
Total July	140	35,934	55	6	20	148	166
Difference	43	2,702	31	5	2	28	28

South Louisiana

	Comp.	Prod.	Abd. Gas	Rigs	Dlg.	Ttl.
Anse La Bute	1	0	1	0	0	0	0
Bayou Blue	1	5	0	0	1	2	3
Bay. Bouillon.	1	800	0	0	0	2	2
Edgerly	3	65	1	0	0	0	0
Hackberry	4	3,966	1	0	1	5	6
Jennings	3	50	1	0	0	2	2
Lake Barre	0	0	0	0	0	1	1
Lake Pelto	1	0	1	0	0	0	0
Lockport	2	100	1	0	0	5	5
Port Barre	2	0	2	0	0	0	0
Starks	1	400	0	0	0	2	2
Sulphur	2	200	1	0	0	2	2
Sweet Lake	1	1,350	0	0	0	1	1
Vinton	4	1,415	0	0	0	3	3
Miscellaneous	13	0	13	0	5	15	20
Total Aug.	39	8,351	22	0	7	40	47
Total July	31	15,766	12	0	7	53	60
Difference	8	7,415	10	0	0	13	13

Gulf Coast Summary

	Comp.	Prod.	Abd. Gas	Rigs	Dlg.	Ttl.
Total Aug.	136	46,987	46	1	25	160	185
Total July	171	51,700	67	6	27	201	228
Difference	35	4,713	22	5	2	41	41

NEW MEXICO
Summary of Field Operations

County—	Comp.	Prod.	Dry Gas	Rigs	Dlg.	Ttl.
De Baca	0	0	0	0	0	2	2
Eddy	1	85	0	0	1	7	8
Lea	17	123,053	3	0	20	62	82
McKinley	0	0	0	0	1	9	10
Rio Arriba	0	0	0	0	0	4	4
San Juan	0	0	0	0	1	8	9
San Miguel	0	0	0	0	0	5	5
Torrance	0	0	0	0	1	2	3
Miscellaneous	0	0	0	0	3	11	14
Total Aug.	18	123,138	3	0	27	110	137
Total July	22	122,695	1	1	25	86	111
Difference	4	443	2	1	2	24	26

COLORADO
Summary of Field Operations

County—	Comp.	Prod.	Dry Gas	Rigs	Dlg.	Ttl.
Bent	1	0	1	0	0	1	1
Boulder	1	0	1	0	0	4	4
Fremont	1	0	1	0	0	13	13
Huerfano	0	0	0	0	0	3	3
Jackson	2	0	2	0	0	3	3
La Plata	0	0	0	0	0	3	3
Larimer	0	0	0	0	2	7	9
Las Animas	0	0	0	0	0	1	3	4
Moffat	0	0	0	0	0	7	8	15
Morgan	0	0	0	0	0	0	2	2
Rio Blanco	0	0	0	0	0	4	4
Routt	0	0	0	0	0	3	1	4
Miscellaneous	0	0	0	0	0	30	30
Total Aug.	5	0	5	0	13	82	95
Total July	6	230	3	1	18	81	99
Difference	1	230	2	1	5	1	4

MONTANA
Summary of Field Operations

District—	Comp.	Prod.	Dry Gas	Rigs	Dlg.	Ttl.
Cat Creek	0	0	0	0	0	1	1
Kevin Sunburst	13	315	4	3	7	13	20
Pondera	0	0	0	0	0	1	1
Border Field	5	490	2	0	2	13	15
Miscellaneous	18	10	14	2	12	58	70
Total Aug.	35	815	20	5	21	86	107
Total July	20	820	5	5	19	102	121
Difference	15	5	15	0	2	16	14

WYOMING
Summary of Field Operations

Dist-County	Comp.	Prod.	Dry Gas	Rigs	Dlg.	Ttl.
Salt Creek	2	54	0	0	2	4	6
Big Horn	0	0	0	0	0	7	7
Carbon	2	125	1	0	1	9	10
Converse	1	0	1	0	1	3	4
Fremont	0	0	0	0	0	7	7
Hot Springs	1	0	1	0	0	3	3
Johnson	0	0	0	0	0	3	3
Lincoln	0	0	0	0	1	6	7
Natrona*	1	125	0	0	1	12	13
Niobrara	0	0	0	0	1	3	4
Park	2	180	1	0	7	20	27
Sublet	0	0	0	0	1	10	11
Sweetwater	1	0	0	1	3	8	11
Uinta	0	0	0	0	3	12	15
Weston	10	1,220	2	0	6	10	16
Miscellaneous	0	0	0	0	1	3	4
Total Aug.	20	1,704	6	1	28	120	148
Total July	15	1,853	6	0	30	111	141
Difference	5	149	0	1	2	9	7

*Exclusive of Salt Creek.

UTAH

	Comp.	Prod.	Dry Gas	Rigs	Dlg.	Ttl.
Total Aug.	0	0	0	0	1	29	30
Total July	0	0	0	0	1	29	30
Difference	0	0	0	0	0	0	0

EASTERN FIELDS
Summary of Completed Work

Fields—	Comp.	Prod.	Dry	Gas
Allegany	11	15	0	0
Bradford	68	51	0	0
Venango-Clarion	20	23	1	0
Middle Field	5	6	0	1
Butler-Armstrong	4	6	0	1
S. W. Penn.	20	66	3	8
West Virginia	76	82	14	43
Southeast Ohio	61	936	15	10
Total August	265	1,185	33	63
Total July	286	1,545	34	49
Difference	21	260	1	14

Summary of Work Under Way

Fields—	Rigs	Drlg.	Ttl.
Allegany	1	8	9
Bradford	7	20	27
Venango-Clarion	0	5	5
Middle Field	0	1	1
Butler-Armstrong	2	8	10
S. W. Penn	2	13	15
West Virginia	25	83	108
Southeast Ohio	26	61	87
Total August	63	199	262
Total July	66	228	294
Difference	3	29	32

TENNESSEE
Summary of Field Operations

	Comp.	Prod.	Dry Gas	Rigs	Drg.	Ttl.
Putnam	1	0	0	1	0	1	1
Smith	0	0	0	0	0	1	1
Warren	0	0	0	0	0	1	1
Clay	0	0	0	0	1	1	2
Dickson	0	0	0	0	0	2	2
White	0	0	0	0	0	1	1
Morgan	0	0	0	0	0	2	2
Lincoln	0	0	0	0	0	2	2
Overton	2	0	0	2	0	1	1
Coffee	0	0	0	0	0	1	1
Franklin	0	0	0	0	0	1	1
Ttl. Aug.	3	0	0	3	1	14	15

KENTUCKY
Summary of Field Operations

	Comp.	Prod.	Dry Gas	Rigs	Drlg.	Ttl.
Warren	4	80	3	0	0	0	0
Barren	0	0	0	0	0	2	2
Allen	1	200	0	0	0	1	1
Ohio	40	703	14	11	0	31	31
Daviess	23	733	3	3	0	21	21
Hancock	2	0	0	2	0	4	4
McLean	14	450	9	1	0	15	15
Henderson	10	45	2	2	0	7	7
Webster	1	0	0	1	0	3	3
Butler	0	0	0	0	1	1	2
Hopkins	0	0	0	0	0	7	7
Muhlenberg	0	0	0	0	0	8	8
Christian	0	0	0	0	2	2	4
Breckenridge	0	0	0	0	0	1	1
Union	0	0	0	0	0	3	3
Logan	0	0	0	0	0	1	1
Todd	0	0	0	0	0	1	1
Caldwell	0	0	0	0	0	1	1
Metcalf	0	0	0	0	0	1	1
Cumberland	0	0	0	0	0	2	2
Clinton	0	0	0	0	0	1	1
Wayne	0	0	0	0	0	1	1
Estill	0	0	0	0	0	3	3
Lee-Owsley	0	0	0	0	0	3	3
Lawrence-Johnson	0	0	0	0	0	1	1
Johnson-Magoffin	0	0	0	0	0	5	5
Floyd	0	0	0	0	0	1	1
Clay	2	0	0	2	1	0	1
Knox	0	0	0	0	0	1	1
McCracken	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Leslie	0	0	0	0	0	1	1
Total Aug.	97	2,211	31	22	4	131	135
Total July	130	3,521	28	18	7	136	143
Difference	33	1,310	3	4	3	5	8

(Continued on Next Page)

LIMA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Wood	0	0	0	0	1	2	3
Hancock	0	0	0	0	0	2	2
Allen	3	75	0	0	0	0	0
Auglaize	0	0	0	0	0	1	1
Mercer	1	2	0	0	0	0	0
Sandusky	1	7	0	0	0	0	0
Seneca	1	40	0	0	1	7	8
Lucas	1	50	0	0	0	1	1
Ottawa	0	0	0	0	0	2	2
Shelby	1	0	1	0	0	1	1
Hardin	4	5	0	3	0	13	13
Wyandot	1	0	0	1	0	1	1
Crawford	2	0	2	0	0	0	0
Henry	1	0	0	1	0	0	0
Erie	0	0	0	0	0	1	1
Total Aug.	16	179	3	5	2	31	33
Total July	18	275	4	3	1	33	34
Difference	2	96	1	2	1	2	1

MICHIGAN

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Muskegon	5	194	0	0	0	7	7
Isabella	9	1,045	0	2	30	46	76
Midland	1	0	1	0	0	8	8
Kent	0	0	0	0	1	2	3
Ottawa	0	0	0	0	0	1	1
Oceana	0	0	0	0	0	5	5
Mason	0	0	0	0	1	5	7
Manistee	1	0	1	0	0	0	0
Lake	0	0	0	0	0	2	2
Cass	0	0	0	0	1	1	2
Tuscola	0	0	0	0	0	1	1
Bay	0	0	0	0	0	2	2
Newyago	0	0	0	0	3	8	11
Clare	1	0	1	0	2	2	4
Montcalm	0	0	0	0	0	1	1
Saginaw	1	0	1	0	0	1	0
Emmett	0	0	0	0	0	1	1
Eaton	0	0	0	0	1	1	2
Kalkaska	0	0	0	0	1	1	2
Branch	0	0	0	0	1	0	1
Berrien	0	0	0	0	0	1	1
Iosco	0	0	0	0	2	1	3
Missaukee	0	0	0	0	1	0	1
Delta	0	0	0	0	0	1	1
Montmorency	0	0	0	0	1	0	1
Lenawee	0	0	0	0	0	1	1
Kalamazoo	0	0	0	0	0	1	1
Monroe	1	35	0	0	0	2	2
Gratiot	0	0	0	0	4	7	11
Shiawassee	0	0	0	0	0	2	2
Livingston	1	0	1	0	1	1	2
Jackson	0	0	0	0	1	0	1
Sanilac	0	0	0	0	3	0	3
Presque Isle	0	0	0	0	1	0	1
Van Buren	0	0	0	0	0	2	2
Allegan	0	0	0	0	1	4	5
Washtenaw	0	0	0	0	0	2	2
Osceola	0	0	0	0	0	2	2
Leelanau	0	0	0	0	0	1	1
Mecosta	0	0	0	0	0	3	3
Cheboygan	0	0	0	0	0	2	2
Total Aug.	20	1,274	5	2	56	128	184
Total July	21	2,180	9	1	70	112	182
Difference	1	906	4	1	14	16	2

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Ashland	13	25	6	6	8	13	21
Medina	8	63	3	1	1	11	12
Lorain	5	0	3	2	3	8	11
Wayne	5	0	1	4	2	6	8
Holmes	4	106	1	1	2	7	9
Ashtabula	0	0	0	0	0	4	4
Richland	1	0	0	1	3	3	6
Knox	8	0	3	5	2	8	10
Coshocton	3	166	0	0	2	4	6
Summitt	3	0	0	3	3	8	11
Licking	11	299	2	1	5	12	17
Muskingum	12	100	2	5	8	13	21
Athens	14	12	6	7	4	15	19
Lawrence	0	0	0	0	2	3	5
Tuscarawas	8	30	3	4	3	4	7
Stark	4	0	2	2	1	4	5
Fairfield	2	0	1	1	0	1	1
Guernsey	8	368	1	1	5	9	14
Belmont	3	3	1	1	1	5	6
Gallia	0	0	0	0	0	1	1
Scioto	0	0	0	0	0	1	1
Pike	0	0	0	0	0	2	2
Delaware	0	0	0	0	0	1	1
Total Aug.	112	1,172	35	45	55	143	198
Total July	81	1,280	21	35	69	184	253
Difference	31	108	14	10	14	41	55

ILLINOIS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Drg.	Ttl.
Clark	0	0	0	0	0	2	2
Cumberland	0	0	0	0	0	1	1
Crawford	4	33	1	0	1	6	7
Lawrence	4	6	2	0	0	1	1
Wabash	4	110	3	0	0	2	2
St. Clair	1	20	0	0	0	8	8
Clinton	1	0	1	0	0	1	1
Effingham	0	0	0	0	0	1	1
Randolph	0	0	0	0	0	2	2
Madison	1	12	0	0	0	1	1
Monroe	0	0	0	0	0	1	1
Edgar	1	1	0	0	0	0	0
Washington	0	0	0	0	0	1	1
Ttl. Aug.	16	182	7	0	1	27	28
Ttl. July	15	84	7	0	3	32	35
Difference	1	98	0	0	2	5	7

MISSOURI

Summary of Field Operations

	Comp.	Prod.	Dry	Rgs.	Drg.	Ttl.
St. Louis	1	0	1	0	3	3
St. Charles	2	0	2	0	0	0
Total August	3	0	3	0	3	3
Total July	1	0	1	0	6	6
Difference	2	0	2	0	3	3

INDIANA

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Drg.	Ttl.
Adams	0	0	0	0	1	1	1
Jay	1	5	0	0	0	2	2
Huntington	1	0	0	1	0	0	0
Gibson	1	0	1	0	0	2	2
Pike	6	20	2	3	0	8	8
Daviess	0	0	0	0	0	2	2
Sullivan	0	0	0	0	0	5	5
Vigo	1	6u	0	0	0	2	2
Warrick	1	0	1	0	0	3	3
Spencer	0	0	0	0	1	4	5
Perry	0	0	0	0	1	6	7
Crawford	0	0	0	0	0	1	1
Steuben	1	2	0	0	0	0	0
Lagrange	0	0	0	0	0	1	1
Johnson	1	0	1	0	0	0	0
Posey	0	0	0	0	0	2	2
Putnam	0	0	0	0	0	1	1
Marshall	0	0	0	0	1	1	2
White	0	0	0	0	0	1	1
Monroe	0	0	0	0	1	0	1
Hamilton	1	0	1	0	0	0	0
Floyd	1	0	1	0	0	2	2
Randolph	1	0	1	0	0	1	1
Ttl. Aug.	16	87	8	4	4	45	49
Ttl. July	21	182	11	4	3	45	48
Difference	5	95	3	0	1	0	1

EASTERN FIELDS

(Continued from Page 86)

on the Robert and H. A. Wilson farm, also in Murphy district, and in Grant district Morris and others have reached 1,400 feet in a test on the Gus Weekly farm in Grant district.

In Gilmer County, J. A. Tierney is shut down for water in his test on the F. D. Hardman farm, De Kalb district. He is down to 550 feet. F. G. Davis and others have reached 600 feet on the Elza J. Hardman farm in the same district and is also waiting on water. A. E. Ellis is drilling and has reached 650 feet in a test on the Moore and Miller farm. Park Bowser has reached 1,500 feet in his No. 4 on the Robert Mitchell farm. In Troy district the Philadelphia Oil Co. is drilling at 700 feet its test on the Frank Drain farm. In the same district the Middleton Natural Gas Co. has a rig standing on the J. W. Snyder farm. The Carnegie Natural Gas Co. has reached 1,950 feet in its second well on the J. W. Matheny farm in Troy district.

Pleasants County

In Pleasants County, Hinds Peavy has reached 1,030 feet in his test on the Pearlie J. Reed farm in McKim district. In the same district C. F. Casper has a rig standing on the George Reed farm. L. C. White and others have reached 600 feet in a second test on the Edward Newland farm in Union district.

In Roane County the United Fuel Gas Co. has reached 4,700 feet in its deep test on the M. Hart farm in Curtis district. Godfrey L. Cabot is drilling his test on the George Nestor farm in Geary district and has reached 1,150 feet. In Spencer district the Ohio Valley Gas Corp. is down to 1,000 feet on the Ray Taylor farm.

Calhoun County is still active with the following work. The Hope Construction & Refining Co. has reached 2,400 feet and is shut down for water on the E. E. Wilson farm, Sheridan district. F. F. McIntosh has a rig standing on the Hannah Jarvis farm in Center district, and in the same district Godfrey L. Cabot has rigged up on the Louis Little farm. In Lee district the United Fuel Gas Co. has a rig standing on the Tell McDonald farm. In the same district the same company has a rig up for No. 3 on the Carr Shaffer farm. In Sherman district the South Eastern Gas Co. has a rig on the Chess Poling farm. The Hope Construction & Refining Co. is down to 1,075 feet in its test on the H. S. Knight farm in Sheridan district. In the same district the Chemical Oil & Gas Co. has rigged up for a second test on the A. H. Fling farm. A. H. Jackson has rigged up on the Lloyd Louden farm in Center district.

In Lincoln County the Woodall Gas Co. has reached 1,300 feet on the Luse J. Adkins farm in Union district, and in the same district the same company is down to 1,000 feet in a second well on the R. L. Stowers farm. In Putnam County, Curry district, the Larner Gas Co. has reached 1,900 feet on the C. H. Burnside farm and J. V. Rashman is down to 1,620 feet on the Thomas H. McCallister farm.

SOUTHWEST PENNSYLVANIA

There were no completions in southwest Pennsylvania during the week. Several are approaching the sand and will probably be reported soon. The Bissett & Gray well No. 2 on the W. L. Bennett farm, Springhill Township, Greene County, drilled deeper to 3,310 feet, is still making 15 bbls. a day from the Fourth and Gordon Stray sands.

GULF COAST

(Continued from Page 49)

which is due to be reached before September 27. Production figures by fields were:

SOUTHEAST TEXAS

Allen	39
Barbers Hill	18,954
Batson	1,158
Big Creek	3,594
Blue Ridge	1,849
Brenham	149
Boling	1,011
Clay Creek	1,430
Damon Mound	705
DeWalt	11,930
Fannett	685
Goose Creek	4,630
Hankamer	1,888
High Island	851
Hull	9,090
Humble	22,182
Jasper County	25
Lost Lake	656
Markham	305
Nash	291
North Dayton	807
Orange	2,107
Orchard	2,373
Pierce Junction	12,254
Port Neches	1,448
Raccoon Bend	12,304
Refugio	27,945
Esperson (Sheeks)	2,752
Saratoga	1,218
Sour Lake	2,139
South Liberty	3,461
Spindletop	17,527
West Columbia	4,192
Total Southeast Texas	171,949
Week ending August 30	173,379
Decrease	1,430

SOUTH LOUISIANA

Anse La Butte	32
Bayou Blue	230
Bayou Bouillon	123
Black Bayou	410
Edgerly	395
Jennings	2,057
Hackberry	3,480
Lake Barre	1,091
Lake Pelto	88
Lockport	2,337
Fort Barre	3,090
Sorrento	75
Starks	726
Sulphur	3,000
Sweet Lake	1,162
Vinton	4,477
Welsh	121
White Castle	1,156
Total South Louisiana	24,050
Week ending August 30	26,291
Decrease	2,241
Total Gulf Coast	195,999
Week ending August 30	199,670
Decrease	3,671

MICHIGAN FIELDS

(Continued from Page 56)

was threatened with complete ruin. Dundee was topped at 3,716 feet and pay sands at 3,727-33 feet. The well is a north offset to No. 1 Bowman, which started developments in Vernon Township several months ago.

Two other wells in Vernon Township have been drilled into the Dundee but are estimated good for only 25 or 30 bbls. initial. They are Mellon-Pollock Oil Co.'s No. 1 House, SW NW, Section 23-16n-4w, and George Talbot's No. 1 Carmichael, SW NE, Section 22-16n-4w. The House well is about 30 feet in the pay sands and the Carmichael is about 7 feet in.

Five Completions

Five wells were completed in the vicinity of the village of Leaton and near the New York Petroleum Royalty Corp.'s No. 1 P. J. Marthey. All are in Denver Township, Isabella County. The largest of the five is the Ohio Producing & Refining Co.'s No. 1 J. Epple, SE SW, Section 19-15n-3w, which made 170 bbls. Dundee limestone was topped at 3,611 feet and pay sands at 3,647 feet. Drilling stopped at 3,667 feet. Gordon Oil Co.'s No. 1 E. Merihue, SE SE, Section 19-15n-3w, made 165 bbls. in the Dundee. Limestone was topped at 3,622 feet and pay sands at 3,656 feet, total depth 3,663 feet. Gibson, Johnson & Borden's No. 2 Lucius Cole, NW SW SW, Section 19-15n-3w, made only 85 bbls. Limestone was topped at 3,604 feet and pay at 3,651-61 feet.

New York Petroleum Royalty Corp.'s No. 2 P. J. Marthey, SW SE, Section 19-15n-3w, and E. C. Fiedler's No. 1 Roberts, NE SE SW, Section 30-15n-3w, were good for 25 bbls. each. Chartiers Oil Co.'s No. 1 Wesche, SE NW NW, Section 29-15n-3w, Denver Township, drilled well into the Dundee but without much success so it is to be drilled deeper before being abandoned.

As a result of these new completions there are now about 12 producers in the Leaton area with another 9 drilling. Among these drilling wells in Vernon Township near the northernmost part of the newly developing area is the General Petroleum Corp.'s No. 1 Pat Regan, SE NW NW, Section 36-16n-4w, in which a flow of about 3,000,000 feet of gas was struck in the Marshall formation at about 1,300 feet. The Mellon-Pollock Oil Co.'s No. 2 Anna Bowman and others, SW SE NE, Section 27-16n-4w, is another drilling Vernon Township well. A flow of nearly 1,000,000 feet of gas daily was struck in Barnard J. McGee's No. 1 Danno, NE NE, Section 30-15n-3w, Denver Township, but it will be drilled on to the Dundee as the rest have been.

A disappointment is the failure to get the Marshall gas in the Sias Oil Development Co.'s No. 1 Doctor Pool, SW NE SE, Section 18-14n-6w, Broomfield Township. This well is about 1,500 feet deep and has struck no sign of the gas which made 10,000,000 feet a day in No. 1 Keeler-Mitchell of the Isabella Oil Development Co.

In Proven Field

In addition to these promising developments in new sections of the country around the city of Mount Pleasant, three new producers were completed in the old proved field. Largest of the three was the E. Brown Oil Development Co.'s No. 3 E. Grubb, SE NW SW, Section 2-14n-3w, which topped the Dundee at 3,520 feet, had the pay at 3,552 feet and was completed at 3,585 feet as a 320-bbl. initial producer. Leonard Petroleum Co.'s No. 8 McClintic, NW NW NE, Section 11-14n-3w, made 165 bbls. initial in the Dundee. Limestone was first struck at 3,506 feet and the pay at 3,530 feet, total depth 3,666 feet. Otsego Oil Co.'s No. 3 Retta Lee, NW NE, Section 12-14n-3w, had the Dundee at 3,490 feet and the pay sands at 3,518-50 feet, from which it made 140 bbls.

Claude F. Palmer's No. 1 Lobdell-Emery, SE SE, Section 26-35n-2w, North Allis Township, Pesque Isle County, was dry, plugged and abandoned at about 1,400 feet.

Four of the seven new locations for which state permits were issued during the two weeks were for wells in the Mount Pleasant and Leaton areas. One was for a new wildcat in Ottawa County, another for a new well on Hansen's Island in the St. Clair River and the seventh for a wildcat in Howell Township, Livingston County, in the south central part of the State.

New locations in the proved area of the Mount Pleasant Field are the Pure Oil Co.'s No. 2 Wilcox, NE SW, Section 1-14n-3w, Chippewa Township, Isabella County; Mount Pleasant Oil & Gas Co.'s No. 3 Thompson-Bortz, NW NE NW, Section 12-14n-3w, also Chippewa Township; Ohio Producing & Refining Co.'s No. 2 Epple, NE NE NW, Section 30-15n-3w, Denver Township, and the Stork Oil Co.'s No. 1 Mitchell, SE SE, Section 13-15n-4w, Isabella Township, Isabella County.

Work has been started on Corbitt & Thorton's No. 1 Ponstantine, SW NE SW, Section 21 6n-14w, Blendon Township, Ottawa County.

The new Hansen Island well is E. L. Smith and Roy Perry's No. 1 Gardner, SE NE NE, Section 28-8n-16e, Grant Township, St. Claire County.

The Crude Oil Co. and the Empire Oil & Refining Co. will join in drilling No. 1 Wilkinson, NE NE SW, Section 22-3n-4e,

Howell Township, Livingston County, east of Lansing.

Muskegon Wells

The Cimusk Oil Co.'s No. 1 Paulson-Barlow-Heinz, SE NE, Section 8-10n-16w, Muskegon Township, Muskegon County, struck gas and oil in the Dundee at 2,028 feet and was completed at 2,041 feet as a 5-bbl. initial well. The other new Muskegon producer was the Lima Oil Corp.'s No. 10 Louis P. Haight, NE SW SW, Section 9-10n-16w, also Muskegon Township. Pay sands of the lower Traverse formation were struck at 1,835-75 feet and the well was completed as a 40-bbl. producer.

The Jersey Oil Co.'s No. 1 Muskegon Brewing Co., NE SE NE, Section 17-10n-17w, Laketon Township, about 1½ miles west of the proved field, was dry in the Dundee at 2,097 feet.

The White River Oil Corp.'s No. 5 William Lipka, NE SE, Section 19-12n-17w, Montague Township, was dry in the Berea but will be carried on to the Traverse and Dundee by H. C. Nelson of the Muskegon firm of Witt & Nelson, Inc., which drilled more than 20 wells in the proved field.

Royal R. Miller's No. 1 Paul Sako, NE NW, Section 27-7n-16w, Grand Haven Township, Ottawa County, which has been shut down at more than 4,000 feet for nearly a year, is to be abandoned.

May Drill in Mason

Thompson Brothers, Muskegon contractors, may finish two wildcat wells started in Logan Township, Mason County, last year by Taggart & Welsh. It is also reported that the Muskegon operators have leased at least one 180-acre tract in Sections 3 and 22, Logan Township, and may drill it.

LA.-ARK. FIELDS

(Continued from Page 46)

ural Gas Co. made location in the NW NE, Section 11-7-12, for No. 4 Sabine Lumber Co. Lohman & Walker's test of No. 1 Hubley in Section 21-7-11, with 2 feet of sand at 1,356 feet, was dry and the rig is shut down for orders. Loring Oil Co.'s No. 2 Sabine Lumber Co. in Section 34-8-12, Zwolle, is fishing for two joints of drill stem with 100 feet of oil in the hole from 2,600 feet and is bailing No. 1 Schuffert in Section 27-8-12 in the north extension of Zwolle, which also had 100 feet of oil in the hole from 2,420 feet. The Texas Company's No. 1 Giauque in the SE SW of the same section shut down for orders after a show of oil at 2,422 feet tested dry.

One small gasser, less than 1,000,000 feet, was completed in Section 9-21-3, Union Parish, in the Monroe gas area, by Greenwood Production Co.'s No. 4 Norsworthy which gauged 375,920 feet at 720 pounds, total depth 2,200 feet. Stovall Drilling Co. abandoned location for No. 1 Murray in Section 32-23-4. Kansas City Supply Co.'s No. 1 Cochrane, Section 36-23-11, Sarepta district of Webster, was junked at 2,726 feet and abandoned. J. P. Evans and others' No. 1 Crichton Co., in Section 31-18-8, Webster, shut down for orders after getting 2 fourbles of salt water on drill stem test from 1,750-1,841 feet, total depth 1,853 feet.

Daily Average Runs

Daily average runs from the field during the week showed a further decline in production of 1,555 bbls. for the district as a whole, 350 bbls. from north Louisiana pools and 1,205 bbls. from Arkansas. Sarepta-Carterville district of Bossier-Webster Parishes dropped 620 bbls., El Dorado 175 bbls., Smackover heavy 525 bbls., and Champagnolle 470 bbls. What increases there were were under 100 bbls. except in the case of Bellevue but practically all districts showed smaller runs than they did last week. Bellevue runs, due to Morgan-Shreveport-El Dorado Pipe Line Co.'s Trinity well south of Bellevue, averaged 945 bbls., an increase of 305 bbls. Standard Pipe Line Co. is taking the oil, which tests 50.5 gravity, through a tap from the Haynesville-Homer-Shreveport main line a mile or so away. Production from Lenz and others' Miller County, Arkansas, producer has not yet appeared in the figures. The nearest pipe line is the Standard's main line from Oklahoma to Baton Rouge about 15 miles west and the nearest railroad is the Cotton Belt, 6 miles or so south.

Daily average runs from the several fields for the week were:

NORTH LOUISIANA

Caddo, light	9,355
Caddo, heavy	2,570
Homer	3,500
Haynesville	4,750
DeSoto-Red River	3,035
Elm Grove	485
Bellevue	945
Cotton Valley	1,975
Urania	5,245
Pleasant Hill	525
Sarepta-Carterville	2,700
Zwolle	4,280
Holly	1,075
Total North Louisiana	40,440
Week ending September 6	40,790
Decrease	350

ARKANSAS

El Dorado	4,035
Smackover, light	5,040
Smackover, heavy	36,735
Stephens	925
Nevada County	1,000
Lisbon	910
Champagnolle	3,770
Bradley	65
Mount Holly	95
Urbana	925
Total Arkansas	53,500
Week ending September 6	54,705
Decrease	1,205
Both states	93,940
Last week	95,495
Decrease	1,555

ARKANSAS

Anticipating considerable activity in Miller County, the Arkansas Conservation Department has opened field offices in Texarkana with C. E. Harris as agent. Nothing more definite as to actual production of the Lenz and others' discovery well has become available and while the major companies seem still not overly anxious to go in for protection smaller companies, organized by home talent, and foreign individual operators and small companies are coming in in increasing numbers. Two new jobs got under way this week and two wells reported the week before as locations set their surface string and are making hole. East Texas Oil & Gas Co. has derrick up for No. 1 T. E. Harvey in the NW NW, Section 2-15-26, 4 miles northwest of the discovery and Lenz and others have derrick up for No. 2 Johnson in the SE cor. NW, Section 24-15-26, offsetting the discovery on the north. O'Mara and others of Fort Worth are reported to have location in the E half SW, Section 31-15-25.

Smackover Wells

Few wells have been completed in Smackover during the past several months, but this week three are listed, all small pumpers. Standard Oil Co.'s No. 7 Farris, NW NW, Section 34-15-15, pumped 30 bbls. initial from 2,035 feet, and Wilson & Chapman standardized two wells in SE SW, Section 24-15-16, No. 1-B Arnold pumping 50 bbls. 20 per cent water from 2,064 feet and No. 2-B Arnold 60 bbls., 30 per cent water, from 2,081 feet. Anderson & Wimmer's No. 1 Buck, a wildcat in Section 7-15-17 was junked at 2,723 feet and abandoned. H. L. Hunt's No. 6 Pratt, NE NE, Section 7-18-15, was abandoned as a salt water hole at 2,214 feet after it had been pumping water for several weeks. C. F. Steele's No. 1 E. W. Groves, Section 21-14-20, Nevada County, was a dry hole at 2,821 feet. Location was made for a wildcat in Scott County, south of Fort Smith gas area in Sebastian, by Arkansas Valley Gas Co., No. 1 Turner in the center SE SE, Section 27-5-30.

Texas Border Gas Areas

There were no completions in Texas border county gas districts and in Camp County, Rogers and others' No. 1 Enfelt in the R. M. Montgomery Survey was a dry hole at 3,045 feet. Burnham and others' No. 1 G. W. Burnett in the M. H. Janes Survey of Bowie County, 4 miles west of Texarkana, shut down immediately after spudding to cure titles. Timberlake and others, drilling No. 1 Tidwell in the James Eskell Survey, 3 miles south of New Boston, the Bowie County seat, got 17 fourbles of salty mud with a small show of gas when tested at 2,661 feet early in the week and a later test a few feet lower developed 5 joints of salt water. S. E. Bell cored 40 feet of sandy shale showing oil on No. 1 Burnett Lumber Co., S. B. Hendricks Survey, a Panola County wildcat 10 miles northeast of Carthage, and is arranging to set 8-inch, total depth 2,075 feet. The Texas Company has taken 5,000 acres of his 60,000-acre block. Crichton & Hart, whose location for No. 1 Greeny-Kyle in the James Tippett Survey was previously reported as W. G. Banks and others, announce they will drill to 5,000 feet about 12 miles southeast of Carthage.

Two new locations were made in Mississippi during the week, one a Clay County wildcat by the Ohio Oil Co. and the other by Millstein Oil & Gas Co. on the Hartfield land in the SE NE, Section 12-5-1e, Rankin County, offsetting Gulf Refining Co.'s No. 1 Hartfield which cemented 9-inch at 2,354 feet this week. The Ohio well, No. 1 Wells, in the NE cor., Section 16-15-5, is to be a deep test on a block of 25,000 to 35,000 acres on which results of magnetometer surveys and core drilling were favorable.

TRAFFIC LAWS NEED CAREFUL CONSIDERATION

(Continued from Page 34)

This booklet is known as a "Driver's Manual" and is 3½"x5½" in size and contains 16 pages with paper cover. It is dated April 1, 1930, and on the inside cover sets forth a notice to superintendents, foremen, farm bosses and other supervisors regarding the general requirements to be passed for anyone to drive a company car. They are as follows:

"No one should be allowed to drive a company vehicle:

"1. Who is physically disabled or unfit to drive.

"2. Who is temperamentally unfit to drive (nervous, absent-minded, etc.).

"3. Who is color blind (unless this requirement is waived by the department head in charge of the man).

"4. Whose eyesight is not as good as 20/30 in one eye and 20/40 in the other without glasses. (If the man's eyesight is 20/30 or better with glasses, this requirement may be waived by the department head in charge of the man.)

"5. Who has had a number of auto accidents, indicating faulty driving.

"6. Who has ever been convicted in any court of reckless driving, careless driving or driving while intoxicated.

"7. Who fails to use good judgment in the care of his vehicle.

"8. Who is less than 18 years of age (insurance policies and state laws generally allow a minimum age of 16 years for privately owned cars)."

The body of the booklet contains instructions about "Care of Your Car or Truck" and gives many valuable hints and rules of keeping the car up to its highest efficiency at all times. One instruction about starting a cold motor might be of interest to others and is quoted below:

"To start a cold motor, pull the hand throttle about one-third open, pull out choker if the weather requires and step on the starter; turn the motor two revolutions and then turn on the switch. This procedure starts the oil circulation and fills the combustion chambers with gasoline mixture ready for easy starting. Release the choker gradually as soon as possible, keeping the motor running. Do not race the motor to warm it up. Run the motor at normal speed for about a minute before putting the car in motion."

Road Regulations and Courtesies

"The state laws of Oklahoma designate 45 miles per hour as the speed limit for passenger cars.

"The PMTA emblem on your car indicates the membership of the company in the Petroleum Motor Transport Association in which the motor transport department of oil companies only are members. Therefore, any vehicle you meet bearing this emblem is another member of the oil fraternity, and you are requested to show them such courtesies as may be in order at the time and place.

"Do not carry unauthorized passengers. They are a liability to the company.

"When you park your car, leave it locked. Always keep the locking device in working order.

"Report any accident immediately to the insurance division and to your department head in accordance with provisions in bulletin on the subject. Report information of the other party's name, car number, address, names and addresses of witnesses, etc. This is especially important when some liability to the public is involved. If the accident involves somebody else's car or property, do not commit the company to stand the loss, but advise the other party that the case will be handled by our claim department.

"Familiarize yourself with the procedure as outlined in the bulletin regarding auto accidents, fires, thefts and other losses. Keep a supply of report forms in your car for making these reports when necessary and familiarize yourself with all information required therein."

Miscellaneous Rules

Following this there is a chapter of car expense and accounting, and a general set of instructions. The last half of the book is devoted to quotations from the "Traffic Regulations of the State of Oklahoma." The whole book is quite comprehensive and without doubt of much benefit to the drivers of cars for the I.T.I.O. Co.

This manual was the basis of a report submitted to the meeting by Messrs. A. L. McMilan, S. C. Phillips, C. J. Martin, C. E. Jackson and T. G. Price and it is proposed that the report be submitted to the New York office of the institute to be sent to the Eastern and Pacific Coast groups for consideration with the view of adopting a uniform driver's code or manual for the industry.

This movement is of considerable importance for the public has been very much inclined to class the modern truck driver with the old type "mule skinner" and heap upon his head the responsibility for many things that happen on the road that were beyond his control. The work being done by the motor transport division of the American Petroleum Institute is going a long way to correcting such opinions, for when a driver on the road sees the emblem of an oil company upon a truck or car and the driver is in any way discourteous it is quite possible that his resentment may be expressed in loss of patronage to that particular company.

It, therefore, is a matter of good business for the oil companies to insist that their drivers use every care and if the public will bear this in mind and do their part to follow road rules and courtesies it is quite possible that many unpleasant things will be eliminated, as well as some accidents avoided.

Uniform Road Laws Needed

The superintendent of motor transportation has many other things to think about other than keeping his equipment in good order and reducing expenses of transportation to a minimum, and the road laws of this country are such that the superintendent must have some of the instincts of a lawyer in his make-up to cope with them.

The state legislatures seem to think that it is their special privilege to enact new laws to govern the automobile traffic, where as a matter of fact it would be far better if 95 per cent of the present laws were repealed and the 5 per cent remaining fully enforced.

No two states in the Union have uniform laws and it is therefore practically impossible for a driver to pass a state line without breaking some law unknowingly. It then remains for the law enforcing officers to use their discretion in enforcing such laws as they are familiar with and they may have picked on some one law that is generally disregarded and by enforcing it cause the motor public much trouble.

The American Petroleum Institute automotive committee is doing what it can to bring about a more general interest of the public in these very serious problems, for in this day and age where nearly every family has an automobile and cars in industry are indispensable there is great need for uniform laws in all states.

The refining companies marketing gasoline and other products are faced, in

some states, with legislation that will make obsolete much of their present equipment and because of the uncertainty of what these state bodies will do at the next sessions they are unable to make definite plans for future expansion of their business with any degree of assurance that the new equipment will be suited to the laws next year.

This lack of uniformity of laws and its effect upon the design of equipment is causing a lot of unnecessary expense to transporters of goods of all kinds and this expense is being passed on to the consuming public and it is a form of waste that should be eliminated as quickly as possible.

Laws Local, Not National, in Scope

State legislatures are governed largely by the wishes of the greatest number of voters with whom they come in contact, their constituents, and therefore are much inclined to listen to the personal opinions of some individual with some political prestige in his ward and try to get bills passed to remedy the evil, real or imagined, that this man has set forth, and as a result of this policy it is stated that during the last sessions of the 1929 legislatures in 41 states there were over 2,500 amendments presented for consideration.

With the automobile such a nationally used vehicle and with state and federal money being spent for road improvement, making every part of the United States accessible to the car, the problem of traffic laws is not one that should be dealt with as a local requirement but rather based upon the national viewpoint. A few laws carefully selected and worded and made national in their enforcement scope would do far more to remove the present-day difficulties experienced by drivers than will the passing of numerous state laws to try to regulate minor evils.

In 1926 the National Conference of Street and Highway Safety was held in Washington, D. C., with Herbert Hoover acting as chairman and it recommended a uniform code for classification of highways and rules and laws governing traffic on them, but, while these recommendations have received the support of many bodies who are interested in traffic problems, they have not yet received the support of many state legislatures and been enacted into state laws.

Since 1926 there have been some changes in types of equipment traveling the highways of this country and the roads themselves have undergone some changes and this would necessitate the revision of some details of the Hoover code, but in the main it is still very well adapted to the present-day needs of the traveling public and should be given the full support of all users of automobiles. This support should not be passive, but should be active and expressed in such ways as to indicate to the members of state legislative bodies that their enactment into laws was necessary.

Uniform Equipment Desirable

It might be thought that the oil companies are primarily interested in increasing the size of the loads they are permitted to haul upon the highways. In the matter of hauling gasoline in bulk, it might be thought that large tank trucks and long trains are the desire of the marketers.

This is not the case as expressed by members of the automotive committee at the Tulsa meeting for they realize only too well that they must be governed largely by public sentiment in such matters and limit their automobile trains to such lengths that they will secure a maximum of service with a minimum of discomfort to the other users of the public highways.

But they are concerned with the lack of uniformity of state laws. This is placing upon the industry, and in turn upon the users of petroleum products, an unnecessary burden in the way of special equipment. The manufacturers of automobiles are also much concerned with this problem of uniform laws for they find that under present conditions they are not in position to manufacture their trucks upon mass production basis because the details of design must be changed to meet individual state laws.

Restrictions as to body width, length of vehicle, allowable weight, speeds and other details all have vital bearing upon the design of automobiles, especially the trucks and buses now so common to the roadways. Florida has a law that prohibits the use of a body width of over 84 inches on any vehicle traveling its state roads.

Adjoining states permit vehicles to have a body width of 96 inches. Bus operators are naturally interested in the carrying capacity of their equipment and it has been found that with the 84-inch width of body one row of seats must be eliminated, whereas with 96 inches of width two seats can be placed upon each side of the center aisle.

Florida is getting around this problem by granting special permission to the bus companies operating interstate lines to enter their state with the 96-inch bus, for it is evident that they are more interested in having travelers visit them than they are in enforcing this particular portion of their road laws. This makes part of the traffic laws of that state inoperative, a condition that is not satisfactory, and this is becoming a very common condition in all states, where some laws are simply nonenforceable and are therefore made dead laws.

The automotive committee of the American Petroleum Institute is doing what it can to get the membership of the Institute back of this movement, for it is only by individual interest in these problems that any good will be accomplished.

Handling Heavy Machinery

The problems of handling equipment in the oil fields is becoming one of major importance with the introduction of apparatus that weighs up to 20 tons in one piece, as well as the need of handling many different shapes, sizes and weights of equipment.

A story in itself could be told of the ingenious methods followed in picking up and moving bulky objects, such as oil field boilers. It is not uncommon practice for one driver alone to be sent with his truck to handle a 50 horsepower oil field boiler and he will usually come back with it, having done the loading unassisted when to the ordinary man this would present an impossible task.

So many things are being done along this line of efficient moving of heavy equipment that it is proposed to have an exchange of ideas among the various members of the committee and also among the different groups. For this purpose a committee was appointed to draw up preliminary recommendations for the method of procedure to be presented at the November meeting of the general committee of the American Petroleum Institute at Chicago. It was also suggested that motion pictures of some of these operations would form a valuable record.

The members attending these meetings got much good out of them, and the social side of the affairs were well handled so that as a whole the sessions were most satisfactory.

C. H. McBurney of the Transcontinental Oil Co., Tulsa, was elected chairman of the Central group for the ensuing year to succeed R. F. Fike who is now national chairman of the production group. S. C. Phillips of the Sinclair Oil & Gas Co., Tulsa, and S. C. Bovell, with the Magnolia Oil Co., Dallas, Tex., were elected vice chairmen for the production and marketing groups of the Central division, respectively.

The meeting for next May is to be held in Dallas, Tex., and the date will be selected by the executive committee and announced later.

The meeting adjourned Wednesday afternoon at the close of a dinner in the Crystal ballroom of the Mayo Hotel and was concluded by four addresses delivered by C. E. Dawson of General Motors Co., Detroit; John Mack, Dodge-Chrysler Co., Detroit; Pierre Schon, General Motors, Detroit, and Art Schaife, White Truck Co., Cleveland, Ohio. Each of these gentlemen had an important message to deliver and it was regretted by the members present that more time was not available to them for a more detailed discussion of their various topics.

HUGOTON GAS FIELD HAS NO DRY HOLES

(Continued from Page 33)

tion 29-33-36, is about 200 feet structurally lower than the wells in the township to the west. On the opposite side of the field there is nothing to indicate a west dip. The beds seem to continue horizontal. Of course such structure would not reservoir the gas without some other controlling factor; that factor is probably the termination westward of the porosity of the gas "sands." Along the west part of the field the gas formations are more shaley and less porous. It is believed, therefore, that the west side of the field is determined by a lack of porosity of the gas-bearing beds and not by structure. Accordingly, the preliminary conclusion of the structure in an east-west direction is that the main part of the field is flat with a distinct dip to the east along the east side of Range 37 and with no controlling structure on the west side but a lack of porosity which prevents the escape of the gas. There is nothing on the surface or subsurface to show the limiting structure either to the north or to the south. The wells on the north and south edges of the field are as good as those in the central part. The formations are nearly horizontal and are not dipping north or south to form a closed structure. Summarizing, the strata are horizontal over the main part of the field; they dip east on the east side to close the reservoir in that direction; they lose the porosity to the west, thus closing the reservoir; to the north and south the limits have not been reached.

Gas

The gas is found in a porous dolomite at depths varying from about 2,500 to 2,700 feet, depending on the location of the well in the field. Gas has been found in more than 50 wells in the Hugoton Field. The initial open flow of each well is reported from a small amount to as much as 11,000,000 feet with an average of 6,300,000 feet. The total open flow of these wells is estimated to be in excess of 300,000,000 feet. The rock pressure is 440 pounds. This is below normal for the depth but is practically the same pressure as the Texas Panhandle Field. Certainly the gas is not under full hydrostatic head, but since the pressure is so uniform over this great area it must be under hydrostatic pressure.

The gas is dry. There is a trace of gasoline at some places but there is nothing to suggest that casinghead gasoline can be made. There is a report that one well in the northern part of the field found a noncombustible gas at about 1,500 feet. The report has neither been confirmed nor the nature of the gas determined but because there is the nonin-

WELL No. 1 CRAWFORD LEASE, SW, SECTION 31-33s-37w, STEVENS COUNTY, KANSAS

Formation—	Color	H. or S.	Thickness	Total depth	Remarks—
Clay	Yellow	Soft	45	45	
River sand dry	Yellow	Soft	10	53	
Sandy clay	Yellow	Soft	65	120	
Water sand	Gray	Soft	40	160	Fresh water.
River sand	Gray	Soft	65	225	All red rock and sand.
Quicksand	Yellow	Soft	215	440	Caving bad.
River sand	Gray	Soft	125	565	Set 12½-in. csg. at 578 ft.
Red rock	Red	Soft	75	640	Hole full of water from 640-50 ft.
River sand	Gray	Soft	10	650	
Red rock	Red	Soft	40	690	
Lime and gyp	White	Hard	10	700	
Red rock	Red	Soft	165	865	Run 10-in. csg. at 850 ft.
Lime	Gray	Hard	10	875	
Red rock	Red	Soft	8	883	
Quicksand	Red	Soft	7	890	
Red rock	Red	Soft	94	984	
Sand	Pink	Hard	16	1,000	
Red rock	Red	Soft	85	1,085	
Lime	White	Hard	50	1,135	
Red rock	Red	Soft	25	1,160	
Lime	White	Hard	15	1,175	
Red rock	Red	Soft	5	1,180	
River sand	Red	Soft	91	1,271	Water, underreamed 10-in. csg. and set at 1,271 ft.
Sand rock	Light	Very soft	94	1,365	
Sandy lime	Light	Hard	185	1,550	
Lime	Light	Hard	5	1,555	
Red rock	Red	Soft	7	1,562	
Lime	Light	Hard	3	1,565	
Sand	Red	Soft	45	1,610	
Red rock	Red	Soft	60	1,670	
Lime	Red	Hard	95	1,765	Run 8¼-in. csg. at 1,750 ft.
Slate	Brown	Soft	45	1,810	
Red rock	Red	Soft	35	1,845	Five bailers water per hour from 1,850-60 ft.
Sand	Gray	Soft	60	1,905	
Red rock	Red	Soft	335	2,240	Reamed 8¼-in. csg. from 1,750 ft. and reset at 2,095 ft.
Slate	Blue	Soft	41	2,281	
Lime and quartz	White	Hard	4	2,285	
Slate	Blue	Soft	45	2,330	
Lime	White	Hard	7	2,337	
Slate and shells	Mixed	Hard	250	2,587	
Sand	Brown	Hard	13	2,600	
Slate	Blue	Soft	12	2,612	
Sand	Brown	Hard	18	2,630	
Sandy lime	Brown	Hard	70	2,700	Showing of gas at 2,617 ft.; gas keeps increasing to 2,730 ft.; estimated from 6,000,000 to 8,000,000; cased off with 6⅝-in. csg.; gas from 2,740-80 ft., about 5,000,000 ft.
Sand	Light	Not very hard	30	2,730	
Slate	Blue	Soft	5	2,735	
Slate	Blue	Soft	5	2,740	
Sand	Light	Soft	10	2,750	
Slate	Blue	Soft	10	2,760	
Sand	Light	Soft	40	2,800	
Chat	Blue	Soft	5	2,805	
Lime	Blue	Hard	25	2,830	
Sandy lime	Blue	Hard	65	2,895	Dose of water from 2,895-2,900 ft.
Sandy lime	Light	Hard	10	2,905	Water filled up in hole 500 ft.
Red rock	Red	Soft	12	2,917	
Lime	Light	Extra hard	98	3,015	
Slate and shells	Light	Extra hard	40	3,055	
Lime	Light	Extra hard	17	3,072	
Red rock	Red	Extra hard	8	3,080	
Slate and shells	Red	Extra hard	15	3,095	
Lime	Light	Extra hard	20	3,115	
Lime	Dark	Extra hard	10	3,125	
Slate and shells	Light	Extra hard	25	3,150	
Slate and shells	Blue	Soft	20	3,170	Hole caving.
Slate and shells	Light	Soft	42	3,212	Water increased about one bailer per hour from 3,212 feet to 3,240 feet.
Sand	Dark	Soft	18	3,230	
Sand	Dark	Hard	10	3,240	
Slate	Dark	Soft	10	3,250	
Sandy lime	Dark	Hard	25	3,275	
Sandy lime	Light	Hard	23	3,298	
Slate	Black	Soft	57	3,355	
Lime	White	Hard	5	3,360	
Lime	Light	Hard	50	3,410	
Broken lime	Brown	Hard	15	3,425	
Slate and shells	Brown	Soft	25	3,450	Hole caving.
Slate	Dark	Soft	5	3,455	
Slate and shells	Dark	Soft	25	3,480	Salt water from 3,480-95 feet.
Water sand	White	Soft	15	3,495	
Lime	Light	Hard	7	3,502	Total depth, steel line measure.

Casing record—15½-inch casing run at ....; driven to 522 feet, 9-inch; 12½-inch casing set at 578 feet; 10-inch casing run at 850 feet, underreamed and set at 1,271 feet; 8¼-inch casing run at 1,750 feet, underreamed and set at 2,095 feet; 6⅝-inch casing set at 2,735 feet; 5 3/16-inch casing set at 3,450 feet.

flammable helium gas in the Texas Panhandle the report is interesting.

Methods of Drilling

Wells are drilled with rotary to a casing point above the pay where casing is set and cemented. The rig is then standardized and the well completed with cable tools. Because the pressure is low the wells are finished with 8¼-inch casing to give the gas a more free flow from the well. Moderate pressure gates are used. Surface water is scarce but at a depth between 150 and 200 feet an abundance of good water is found to operate the rotaries. A serious difficulty is the loss of returns. At some horizons the formations are so porous that all returns are lost. In one well many loads of clay, cottonseed hulls, straw and other articles were used before the returns came to the surface. Drilling prices vary from $25,000 to $30,000 for a turn key job.

Market

The only sale for the gas now is to drilling rigs in the field and a few minor industries. Three major trunk lines—one from Moore County, Texas, to Chicago and another from the same source to Indianapolis, and the third going in the direction of Omaha—pass to the southeast of the field. Branches from these lines into the Stevens County field are under construction. Within the next few months there should be ample transportation and market facilities. Price for the gas at the well has not been announced.

PREVENTING BLOWOUTS WHILE DRILLING WELLS

(Continued from Page 32)

the greatest weight per cubic foot when finely ground and perfectly dry, free from sand and voids. Ten and 12 per cent sand cannot be detected in some clays except in a laboratory test. Mud with a high sand content is objectionable on account of its abrasive effect on equipment and because that weight in mud made up by sand is not effective in holding down heavy pressures. It is common knowledge that mud can be too plastic in drilling through gas horizons. Thick, plastic mud is much more susceptible to gas cutting than thin mud. When the condition arises where mud must be heavy to hold down gas and at the same time sufficiently fluid that it is not affected unduly by the gas, use of admixtures must be resorted to, commonly referred to as "mud-heaviers." These admixtures are usually mixed with ordinary mud in the proportions required to maintain certain weights and remain sufficiently fluid. In many cases it may be found advisable to use drilling fluid manufactured exclusively of such admixtures and water. In the Hobbs Field, Lea County, New Mexico, where pressures of 1,400 pounds are encountered at a depth of 2,800 feet, it has been found advisable in some wells to resort to this practice. It is questionable that this practice is necessary in the Hobbs Field, but it is one way of "playing safe." The usual practice at Hobbs is to maintain circulating fluid weighing 14 to 15 pounds per gallon while drilling through the heavy gas horizons.

Adding Admixtures

It is very important in adding admixtures with mud that the mixing be thoroughly done. A very popular method of mixing is with the jet hopper system using the mud in the pit as the jetting fluid. After the necessary quantity of admixture is added to the mud in the pit the fluid should be thoroughly circulated with a hose; samples then should be taken for weight from various parts of the pit to insure that a thorough mix has been made. Some operators prefer mixing mud and admixtures by cooking them with steam in wooden boxes. The general opinion is that this practice is injurious to the mud. Admixtures, of which the main ingredient is Barites, are used almost exclusively throughout the Mid-Continent at the present time. Mud fluid with the proper chemical treatment (usually a soda treatment) can be made to remain sufficiently fluid at much heavier weights than nontreated mud. Admixtures added to mud treated in this manner may add enormously to the weight and effectiveness of the mud.

The mechanical methods most in use for liberating gas from mud is: (1) Aerating towers, (2) long baffled bottom wooden ditches, (3) use of gunning system obtained by using a joint of pipe perforated on the one side, with perforations directed at a concave deflector plate which causes the mud to flow from the deflector plate into the suction pit in a thin sheet as it is pumped through the perforated pipe from the settling pit by an auxiliary pump, (4) mechanical vibrating screens.

There are several chemicals manufactured which, when mixed with drilling fluids, tend to reduce the film tension on the gas bubbles in the pits and ditch. Considerable chemical of this nature is being used in the Hobbs, N. M., Field at this time. In some quarters use of this method of liberating gas from drilling muds is well thought of; in others there is a doubt of its value, and only time and experience can provide an answer.

It is good practice in rotary drilling to weigh the drilling fluid and make simple centrifuge tests for sand twice daily, having the driller include the data in the drilling report as an assurance that the test has been made. In drilling through high-pressure horizons the mud should be weighed and tested for sand or lime cuttings as often as may seem advisable to insure that it is of sufficient weight and quality to prevent the gas from blowing out. Drilling crews in high-pressure zones should circulate several times in coming out of the hole in order to insure against gas pocketing. Figure 4 shows hydrostatic bottom hole pressure of different heights of fluid at different depths.

Cable Tools

Safety and ability to drill with cable tools through horizons containing large volumes of gas and oil has long been a serious problem. There are several methods in use which diminish hazard and improve drilling time. We will here briefly describe some of these practices.

(a). The lubricator method is used extensively in the Yates Pool, Pecos County, Texas, for drilling the wells into the pay. A high-pressure control head has been developed which provides a bypass and a ground joint connection for the lubricator pipe. A high-pressure stuffing box for running the line through is used on the top of the lubricator pipe and a high-pressure double rubber oil saver is used on the control head while drilling. The oil saver can be released after the lubricator pipe is in place in order to allow the tools to be pulled into the lubricator pipe. Operators have found this method to be very satisfactory. The control heads referred to above are manufactured to withstand various pressures up to 3,000 pounds per square inch. Several hundred pounds may be maintained on the inside of the casing while drilling.

(b). There are several high-pressure oil savers obtainable. Some of these savers are equipped for snubbing tools in and out of the hole with special snubbing devices. A stuffing box and moving part in one of these savers releases mechanically when tools strike the bottom as they are snubbed out. This arrangement allows for remote control. It is possible with several of these savers to maintain very high pressures inside the casing while drilling. This method permits drilling without the danger of having the tools blown out of the hole while operating.

(c). A patented method of drilling and carrying casing through heavy volumes of gas is extensively used in the Panhandle (of Texas) fields. The principle of this method is that the gas pressure is balanced with water.

Conclusion

There is ample opportunity for improvement of blowout prevention equipment and methods. Too much stress cannot be put on the advisability of oil operators making every reasonable effort to save life, money and natural resources by preventing blowouts in drilling.

Summarizing the foregoing, the main principles to be followed are:

1. Selection and installation of suitable blowout prevention equipment capable of withstanding pressures that may be expected in the area.

2. Ability of equipment so selected to function immediately in an emergency, because every blowout is an emergency.

3. Proper training of personnel in the operation and application of that equipment so as to be effective on instant notice.

4. Proper selection, manufacture and control of weights of drilling mud.

Recommendation

The Texas district subcommittee, who is responsible for this paper, is of the opinion that the study of blowout prevention is worthy of more detailed treatment and which time has prevented our doing in this paper. We believe that additional data should be prepared on specific phases, for example, a detailed study and analysis of mud-laden fluids for drilling would be highly desirable, which should be made available to our field superintendents and foremen so that they may become more proficient in the selection and preparation of muds, especially in the use of admixtures and the chemical treatment of muds to add to their effectiveness in drilling. This analysis should contain concrete and specific recommendations on methods and materials that are available and practicable and which could be applied in daily use.

STAGE IS ALL SET FOR BIG OIL SHOW

(Continued from Page 32)

White Star Line and the American line, steamship companies especially active in the interest of the oil show.

The railway systems of the United States, Canada and Mexico are directly responsible for the large attendances which have marked every exposition and congress, in that their associations have offered the advantage of reduced rates to Congress visitors and have done much to publicize the event with the facilities at their disposal.

Large Railroad Traffic

It may be pointed out that in 1928 the passenger traffic increase for the oil event called for 99 extra Pullmans; in 1929 the number of extra Pullman cars rose to 125, and for the 1930 there is every indication that this number will go to 175. This tabulation does not take into account the vast amount of passenger traffic cared for in the regular railway cars. This year the special trains and overflow Pullman service will be concentrated at the following points; New York City, Pittsburgh, Chicago, Twin Cities, St. Louis, New Orleans, Shreveport, Los Angeles, San Francisco, Denver, Dallas, Houston and San Antonio. Midland and Amarillo, Tex., will probably contribute a special train. Other focal points may be added if necessary.

Valuable aid, especially in connection with the organization and transportation of delegations to the oil show, is given by the local chambers of commerce. Probably the most notable efforts in this respect are those of the Oklahoma City Chamber of Commerce, which expects to bring thousands of citizens from the capital.

Not all of the assistance from the air will come from the companies operating airplane lines. Millions of radio fans have been informed about the exposition and congress. Oil and gas companies have devoted a part of their "time" on the air over the National and the Columbia Broadcasting systems to an exposition of oil show facts. Individual stations which have given valuable service are KVOO, Tulsa; WKY, Oklahoma City; WFAA, Dallas; WOAI, San Antonio, and KTBS and KRMD, Shreveport.

It would be impossible to estimate the large part the newspapers, trade journals and house organs in this country and abroad have taken in making the oil man's university a success. That information about the industry's progress as it will be reflected in the event of October 4-11, which they have deemed of the slightest possible interest to their readers, has been published without stint, and with the knowledge that the exposition, as a nonprofit making organization, finds it impossible to reciprocate adequately as an advertiser.

FUEL REQUIREMENTS OF AIRCRAFT ENGINES

(Continued from Page 38)

cent evaporated point gives a very close estimate of the vapor-locking temperature of the gasoline at 760 mm. Hg. pressure. Apparently the Air Corps is receiving some gasoline containing propane, as the Reid vapor pressure at 100° F. of samples of D.A.G. with almost identical 10 per cent-evaporated point is differing by as much as 1½ pounds per square inch.

It is probable, therefore, the Air Corps Specifications Y-3,557 and 2-40F for Domestic Aviation Gasoline (differing from the federal specification only in that it specifies a critical temperature of solution with aniline) will be modified to provide an upper limit of temperature (probably increased to 167° F.) for the 10 per cent-evaporated point and a maximum Reid vapor pressure; the latter is unlikely to be set in excess of 6.5 pounds per square inch at 100° F.

An upper temperature limit of 167° F. on the 10 per cent point will provide considerably better control of starting quality than that now given by the limits of 122-167° F. for the 5 per cent recovered point in the Federal Domestic Aviation Gasoline Specification.

Sum Content

4. While cracked gasoline has been little used for aircraft engines there would seem to be little reason for excluding it without extensive tests. The Material Division has carried out endurance tests in flight with cracked aviation Ethyl Gasoline and found no undesirable effects from the use of a cracked base. The fuel used in these tests was admittedly low in gum (below 10 mg. glass-dish after accelerated aging with oxygen) and quite gum-stable. Several gum-stable cracked aviation gasolines of high antiknock value from a variety of sources have been tested by the Material Division. From the standpoint of supply of antiknock aviation fuels, it seems that service testing in flight of cracked gasolines should be encouraged.

The present federal specifications of 3 mg. of copper-dish gum for aviation gasolines virtually exclude all cracked gasoline (and are not very generally met by much of the straightrun fuel in use), and a glass or porcelain-dish requirement appears to provide no control of gum-stability.

The Material Division has tentatively specified an accelerated aging test with oxygen in Specification Y-3,557 and is financing an investigation of the relation of accelerated aging tests with storage conditions at the Bureau of Standards. This investigation by the bureau would appear to be of such fundamental importance to the oil industry at large that it should be supported by the industry and its financing not be left to the Air Corps alone.

Available Fuels

5. Ample supplies of Fighting Grade Gasoline with an appropriate antiknock value of 70-75 octane, 25-30 heptane (at high cylinder-temperature) of both gum-stable cracked and straightrun types seem to be available. Most of the straightrun stock available is, as far as experience of the Material Division goes, of California origin. When antiknock values of the order of 87 octane, 13 heptane are required (measured at high cylinder-temperature), the use of teraethyl lead on aromatics for addition to such bases seems to be the best present method. Benzol, which appears to be relatively ineffective at high cylinder-temperature, cannot be used in concentrations much in excess of 20 per cent on account of ice formation in the induction systems and freezing in the fuel systems, and even 20 per cent is troublesome. A freezing point of —75° F. for the finished fuel blend appears to be about the upper limit for satisfactory operation, and a lower limit of roughly —150° F. is to be desired. Aromatics of low freezing-point, synthesized from benzol, appear to be the only antiknocks of possible general availability, other than dopes, for the raising of the antiknock value of the above, discussed bases to antiknock ratings of the order of 87 octane, 13 heptane.

Of the dopes, tetraethyl is at present

the only one of interest for large scale use. Many present types of aircraft engines develop troubles when operated on fuels containing tetraethyl lead. Several, however, are virtually free of operating trouble from this cause. Engines requiring fuels with antiknock ratings of the order of 87 octane are all of the superperformance type for military use, and the troubles arising with lead are vastly less difficult to overcome than those caused by insufficient antiknock value. For the present, the Air Corps is requiring that superperformance engines developed for its use shall operate satisfactorily on fuel containing 6 cc. of lead per gallon.

The Air Corps feels that operating troubles with lead have been overcome in automobile engines and can equally be overcome in aircraft engines. From the experience of the Air Corps, troubles with lead in aircraft fuel can apparently all be overcome by design, material and lubrication changes.

Under the high-temperature conditions of knock test specified in Specification Y-3,557, very large supplies of straightrun California gasoline that will meet the antiknock value required with less than the allowable maximum lead concentration of 6 cc. per gallon appears to be available.

Knock tests to Specification Y-3,557 (300° F. jacket temperature) of cracked gasolines without lead addition against the best of the straightrun California gasolines without added lead show that the cracked base is in cases superior in antiknock value. This superiority usually disappears when lead is added to both, as the cracked base with 10 cc. of lead added is at times inferior to the California base with 3 cc. of lead. The lead response of some cracked fuels appears to be slight and in other cases to be virtually nil after a particular concentration has been reached.

Corrosion troubles arise with the use of Ethyl Gasoline in some aircraft engines, but corrosion due to fuel is by no means always the result of the use of lead. A recent case of violent engine corrision at the Material Division was traced to high-sulphur benzol. The Air Corps, as the result of this case, does not feel that the present sulphur limit of 0.1 per cent for the finished fuel can be raised nor the copper-dish corrosion test be abolished.

DIVERSITY OF OPINIONS ON AIRCRAFT FUELS

(Continued from Page 38)

ing and aerial service be worked out on the basis of being dispensed at the 1,218 airports, this would figure out as 15,800 gallons per each airport per year. But, when it is estimated that 250 airports do 60 per cent of the gasoline business, it will readily be seen that many fields which are widely distributed handle only a very small proportion of this gallonage. By way of contrast, compare this with the 26,600,000 motor vehicles with their annual consumption of 15,000,000,000 gallons of gasoline.

Suggests Standardization

If aviation gasoline were of one standardized grade, such as the U. S. Motor fuel now being sold for automotive vehicles, the problem would be simple; but, when the field is split into five groups necessitating the carrying on hand of several grades of aircraft gasoline for such a limited demand over such a widely scattered territory, economic complication sets in and the petroleum refiner is discouraged because of the small special gasoline runs necessary to take care of these diversified requirements. Because of the small gallonage dispensed through these numerous fields, shipments to warehouse points are in most cases handled in drums in car load lots rather than in tank cars. Dispensing gasoline to airplanes from such drums is not at all satisfactory, this method having been considered hazardous during the war because of moisture and the contamination that is bound to occur.

Five Classes of Fuels Needed

The apparent need or demand for five grades of aviation gasoline developed from five separate and distinct sources:

1. Those suppliers or designers who follow Technical Paper 323B for aviation gasoline domestic grade. This group, desirous of giving recognition to the Department of Commerce for its control of licenses of planes and pilots, wish to consider this specification—the natural development of the former specification 8Glb, dated September 1, 1917, which was standard for both the Army and Navy air services in this country during the World War.

2. Those engine builders who, desiring a higher compression aviation gasoline, have been influenced by the Army air service and United States Army specification No. 2-40F, and insist on the use of this modified domestic aviation grade B gasoline to which is added 2 to 3 cc. of tetraethyl lead per gallon.

3. Those engine and aircraft builders who, being of the same mind as those in Group 2, desiring a higher compression aviation gasoline but feeling that aviation Ethyl Gasoline is the cause of deposits, corrosion and sticky valves, have found, like the Navy, that West Coast gasoline made to meet Navy Department specification 7G1c Grade B, which calls for an antiknock compression ratio of 5.8:1 as determined on an N.A.C.A. universal variable compression engine with cooling water temperature 180° F. have an antiknock value equal to aviation Ethyl Gasoline.

4. This group, comprised of commercial concerns and engine builders, recommend aviation gasoline domestic grade, as does Group 1, plus 15 to 20 per cent benzol—this in order that the required antiknock value may be secured.

5. There is still another compromise method, which is the sponsoring of the fighting grade or the 329 endpoint aviation gasoline, offered not only because of its lighter weight per gallon than the domestic grade, but also because of its better antiknock value.

Analyzing the various specifications as required by the foregoing five groups, it will be seen that the first four have distillation range, color, doctor, acidity and sulphur requirements identically the same. Therefore, what has really caused this situation, complicated as it is, is a general desire but yet difference of opinion as to what method shall be adopted or dope used so that a suitable antiknock value may be arrived at. The lack of understanding as to just how far a universally distributed product could be raised in antiknock value without a price increase to airports of more than 3 to 5 cents per gallon over the U. S. Motor gasoline tank wagon price has added grief to the situation.

It would seem that the first step to take would be to raise the gum content of aviation gasoline from 3 mg. to at least 20 mg. A 70-hour test made on 48 mg. aviation gasoline showed no trouble due to deposits or sticky valves, and several aviation gasolines sold today having a gum content in excess of 50 mg. apparently are giving satisfactory service. By allowing this leeway, refiners would not be tied down to producing straightrun aviation gasolines. Straightrun methods are obsolete today in making fuels for motor vehicles because such gasolines have a low antiknock value.

Surely the petroleum industry would welcome the working out, through proper channels, of a standard specification to cover one aviation gasoline with a reasonably high antiknock value, to be used for private flying and aerial service as well as by scheduled transport consumers, and perhaps one other but not more than one additional specification to cover aviation fuel for the Army and Navy and such scheduled transport lines as well as those consumers who may desire to use supercharged engines, all of whom find it necessary to go to compression ratios higher than 5.1:1 for air cooled engines. Then, with the future growth of the industry, there is no doubt that improved fuels will be developed as a natural course.

PRODUCTION MEN MEET AT GALVESTON

(Continued from Page 31)

quent break down of Gulf Coast cement jobs. At previous meetings of engineers and field men, Mr. Doherty and Mr. Manning have read papers on this subject and the present paper represents a continuation of the record of their studies. This paper also is printed in full elsewhere.

Tubing Wells

A paper on the "Effects of Tubing Flowing Wells in the Yates Field, Texas," prepared by Harvey Hardison of the California Co., Midland, Tex., was read by Mr. Meier, chairman, in the absence from the session of Mr. Hardison. This paper, which had to do with the subject of lowering of gas-oil ratios, was extremely interesting and resulted in considerable discussion of the merits of tubing wells in the Gulf Coast, a subject brought up by John R. Suman, director of the Humble Oil & Refining Co.

Tubing of wells is of vital importance to Gulf Coast operators at this time in view of the recent order of the State Railroad Commission that all new Gulf Coast wells must be completed through tubing. It has not been the general practice in the Gulf Coast to do this and much opposition on the part of some has arisen. The discussion at the meeting brought out only favorable comment for tubing these wells.

The second day's program had only one prepared paper scheduled, it being the desire of those in charge to devote the remainder of the time to an open forum discussion of questions presented by those present. The one paper, however, although last was not least, and gave the first complete account of the deep development in the Big Lake Field of Reagan County, which, it is believed, has ever appeared. The paper, read by Melvin J. Collins, was prepared jointly by Mr. Collins and Joe W. Folk, both of the Big Lake Oil Co., Texon, Tex. The paper was printed in full beginning page 76 of the September 4 issue of The Oil and Gas Journal.

This paper detailed not only the history of the development but also the methods of operation, equipment, production records, recoveries, geological characteristics and problems confronting operators.

Question Box

The open forum, known as the "Question Box" followed and continued until the close of the meeting shortly after noon. Discussions on the various questions brought up were taken in full by a court reporter and as soon as edited will be distributed to those in attendance. The questions brought up the following topics of discussion:

1. Proper location of tubing in wells as it pertains to sanding.
2. Proper methods of dressing Elliott core bits.
3. Action taken and to be taken by oil companies in acquainting field men with care and use of equipment.
4. The need of kelly guides in starting holes vertical.
5. The position of Pitman stirrup bearings on Lufkin pumping unit in relation to the beam bearing as it pertains to efficiency of operation and lowering of power costs.

Answers to the first discussion brought out that the level of the tubing in the well had nothing to do with the sanding of wells. It was stated in addition that the majority of operators found it better practice to run the tubing as near the bottom as possible.

As to proper dressing of core bits, Mr. Shutts of the Humble company, gave a detailed account of the studies he had made for the Humble Oil & Refining Co. and showed a number of samples of dressing with various arrangements of blades as they affect the cutting and recovery efficiency of core bits. The discussion emphasized the fact that only a comparatively few operators were paying the necessary attention to proper dressing and alignment and that the men in the field trusted with this responsibility should be especially trained in the requirements of the bits and proper dressing.

Field Meetings

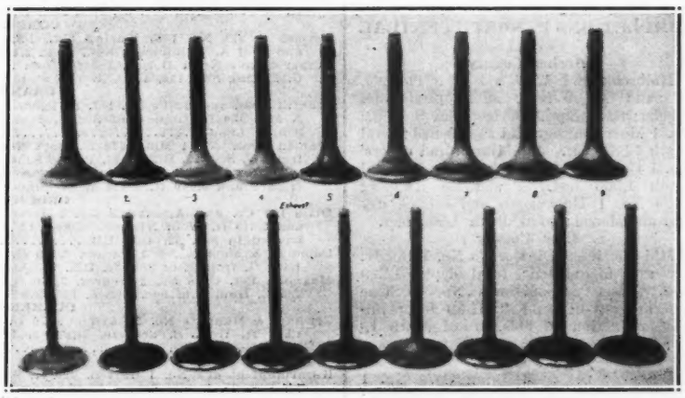
The third question gave rise to a discussion of the merits of education programs and the holding of regular meetings for the field men and in otherwise impressing on them the need of proper care and use of equipment and how that might be accomplished. It was the consensus that some form of regular and frequent meetings should be held in the field. The policy of the Shell Petroleum Corp. in educating its men in the ways of handling sucker rods was explained by E. Stanley Durwood of this company and vice chairman of the district. Mr. Durwood told how a little plain talk and education accomplished a 60 per cent reduction in one month in sucker rod loss by breakage and other damage.

As to the use of kelly guides in starting vertical holes it was the consensus that unless the surface formation was very hard this was not necessary. It was pointed out that if the rotary is set up correctly a vertical hole will be started.

Pumping Efficiency

Pertaining to the fifth and last subject of discussion, the effect of different positions of the Lufkin unit on pumping efficiency and power costs, A. L. Fabar, engineer for the Arkansas Power & Light Co., Pine Bluff, Ark., told of the research and experimental work which had been done by southern Arkansas operators, principally the Simms Oil Co. His discussion, which was graphically illustrated, was one of the most educational discussions of the meeting. He explained how Simms Oil Co. in its experiments had reduced its power costs 5 to 8 per cent, vibrations to equipment approximately 25 per cent and at the same time had accomplished a 72-inch stroke, 20 strokes to the minute.

During the Galveston meeting southwestern district committees on standardization, drilling and drilling practice held conferences and their report will be known later. Entertainment features for the meeting were informal. The customary banquet was dispensed with and no other definite entertainment was provided but following the close of the meeting Friday noon, a large number of those



Valves of nine-cylinder Wright Model J-4 engine as removed from engine after 70 hours operation, using domestic gasoline containing 48 Mg. of gum. Upper row includes exhaust valves and lower row intake valves.

present stayed over during the afternoon for golf, bathing, fishing and other sports.

It might be said at this time that a large part of the success of the meeting was attributed to the efforts of Carl A. Young of Dallas, executive secretary of the division, who, with Mr. Meier and Mr. Durwood, chairman and vice chairman, respectively, and the district chairman, have co-operated to provide a worth while program to get a large attendance.

PANHANDLE FIELDS

(Continued from Page 68)

No. 1 Bird, in the Henry Bird Survey, outside the town of Strawn in Eastland County encountered 3,500,000 feet of gas at 2,977 feet, and will probably be completed as a gasser at 2,990 feet as the company has a gasoline plant about 3 miles south of the town and can readily use the gas from this well.

COMPLETIONS IN PANHANDLE DISTRICT

Carson County

Gibson Oil Corp.'s No. 1 Moore, initial production 26,000,000 feet of gas from 2,635-2,790 feet, total depth 3,338 feet.

Collingsworth County

Shoup Brothers' No. 1 Aldons, dry and abandoned, total depth 3,155 feet.

Gray County

The Texas Company's No. 21 Saunders, top pay 2,660-62 and 2,765-70 feet, initial production 145 bbls. oil and 3,000,000 feet of gas, total depth 2,797 feet. Mutual-Consolidated Oil Co.'s No. 2 Langhan, total depth 2,829 feet, plugged back to 2,813 feet, top pay 2,787 feet, initial production 240 bbls. Saulsbury and others' No. 1 Shindon, total depth 3,095 feet, plugged back to 3,057 feet, top pay 3,035 feet, initial production 25 bbls. Midwest Exploration Co.'s No. 1-A Waggoner, top pay 3,135 feet, initial production 270 bbls., total depth 3,263 feet.

Moore County

Shamrock Oil & Gas Co.'s No. 1 Shory, total depth 3,533 feet, plugged back to 3,219 feet, initial production 40,000,000 feet of gas from 2,870-3,200 feet.

Potter County

Texas Interstate Pipe Line Co.'s No. 1 Masterson, shot 70 quarts 2,010-2,110 feet, initial production 6,500,000 feet of gas, total depth 2,135 feet.

Wheeler County

Lone Star Gas Co.'s No. 2 Close, top pay 1,521 feet, initial production 5,800,000 feet of gas, total depth 1,691 feet. Lone Star Gas Co.'s No. 1 Kerzan, top pay 1,450 feet, initial production 57,000,000 feet of gas, total depth 1,807 feet. Murchison & Fain's No. 2 Grogan, top pay 1,640 feet, initial production 35,000,000 feet of gas, total depth 1,850 feet.

COMPLETIONS IN RANGER DISTRICT

Brown County

Owens and others' No. 1 Loyd, dry and abandoned; total depth 1,305 feet. Tex-Cal Oil Co.'s No. 5 Martin and others, dry and abandoned; total depth 990 feet. Ven-Mex Oil Co. of Texas' No. 1 Perry, dry and abandoned; total depth 1,008 feet.

Callahan County

Star Drilling Co. and others' No. 1 Finley, total depth 914 feet; plugged back to 912 feet; initial production 5 bbls. oil and 5 bbls. of water. Thompson and others' No. 1 Seale estate, dry and abandoned; total depth 1,321 feet. Wakefield and others' No. 1 Hall, dry and abandoned; total depth 3,031 feet.

Coleman County

Atlantic Oil & Production Co. and others' No. 1 McCulloch, dry and abandoned; total depth 2,544 feet. Coleman Oil & Gas Co.'s No. 1 Switzer, oil sand 2,195-2,227 feet; initial production 800,000 feet of gas; total depth 2,227 feet. Meredith and Benton's No. 2 McCulloch, total depth 2,153 feet; plugged back to 2,118 feet; oil sand 2,090-2,101 feet; initial production 20 bbls. oil and 8 bbls. of water. Urban and others' No. 1 Rogers, dry and abandoned; total depth 2,986 feet. Elmore and others' No. 1 Rehm, dry and abandoned; total depth 1,329 feet. McGahey and others' No. 1 Shore, dry and abandoned; total depth 1,505 feet.

Eastland County

Hoffman & Page Co.'s No. 8 Lyerla, shot 30 quarts in sand 1,243-58 feet; initial production 15 bbls.; total depth 1,260 feet. Hickory Oil & Gas Co.'s No. 1 Terry, shot with 70 quarts at 3,457-91 feet; initial production 40 bbls. oil with 2,000,000 feet of gas; total depth 3,491 feet. Texas Development Co.'s No. 2 Westtenholm, dry and abandoned; total depth 1,543 feet. Texas Pacific Coal & Oil Co.'s No. 29 Butler, temporarily abandoned. Hyer and others' No. 1 Patterson, shot 85 quarts 3,423-66 feet; initial production 800,000 feet of gas and 2 bbls. oil; total depth 3,466 feet.

Jones County

Gibson and Johnson's No. 1 Hudspeth, dry and abandoned; total depth 2,860 feet.

Palo Pinto County

T. O'Neil's No. 1 Jones, temporarily abandoned location.

Shackelford County

Kouri and others' No. 1 Bouldin, show of gas 1,390-93, 1,605-08 feet; dry and abandoned; total depth 1,652 feet. G. P. Mitcham's No. 2 Nail, dry and abandoned; total depth 454 feet. Skelly Oil Co.'s No. 7 Mathews, oil sand 1,109-25 feet; initial production 20 bbls.; total depth 1,125 feet.

Stephens County

Lone Star Gas Co.'s No. 1 Tomlin, 10,000,000 feet of gas from lake sand 3,580-85 feet; total depth 3,585 feet. Alworth and others' No. 1 Moore, total depth 2,186 feet; well drilled deeper from 1,190 feet; 2,750,000 feet of gas from 1,183-90 and 8,250,000 feet of gas from 2,178-86 feet.

COMPLETIONS IN NORTH CENTRAL TEXAS

Archer County

Holbrook and Wood's No. 1 Thomas, oil sand 605-09 feet; initial production 5 bbls.; total depth 609 feet. E. S. Bell's No. 1 Morrison, dry and abandoned; total depth 1,381 feet. Joe Minton and others' No. 1 Coleman, dry and abandoned; total depth 1,503 feet. Panhandle Refining Co.'s No. 1 Duckworth and others, dry and abandoned; total depth 1,502 feet.

Clay County

Mid-Continent Oil Corp.'s No. 1 Boddy, dry and abandoned; total depth 1,229 feet. Same corporation's No. 6 Stine and others, oil sand 1,751-89 feet; initial production 40 bbls.; total depth 1,789 feet.

Cooke County

Danciger Oil & Refining Co.'s No. 1 Field and Bowers, dry and abandoned; total depth 1,602 feet. Same company's No. 1 Fleitman, dry and abandoned; total depth 1,680 feet. Fain & McGaha Oil Corp.'s No. 4 Chaffin, oil sand 1,014-37 feet; initial production 18 bbls.; total depth 1,037 feet. Russell and Monroe's No. 1 Robinson, dry and abandoned; total depth 1,563 feet. A. V. Grant and others' No. 1 Dennis, oil sand 1,165-1,212 feet; initial production 78 bbls.; total depth 1,219 feet. The Texas Company's No. 1 Monroe's Huggins, dry and abandoned; total depth 1,500 feet.

Montague County

Tubb and others' No. 1 Reed, dry and abandoned; total depth 2,811 feet. Bridwell Oil Co.'s No. 1 Bouldin, dry and abandoned; total depth 3,024 feet. Tubbs and others' No. 1 Reed, dry and abandoned; total depth 2,811 feet.

Wichita County

R. R. Clark and others' No. 1 Cabe, dry and abandoned; total depth 1,790 feet.

Young County

George Alexander's No. 1 Jeffery, dry and abandoned, total depth 920 feet. F. E. Butler and others' No. 1 Finch, oil sand 642-50 feet, initial production 84 bbls., total depth 650 feet. Cunningham & Lynch's No. 1 Stewart, dry and abandoned, total depth 555 feet. P. K. Deat's No. 1 Green and others, dry and abandoned, total depth 1,255 feet. Disney & Murrell's No. 1 Trueheart, dry and abandoned, total depth 601 feet. W. R. Fullerton's No. 2 Belknap Cattle Co., dry and abandoned, total depth 818 feet. C. H. Hebrig's No. 1 Farrow, dry and abandoned, total depth 1,003 feet. Heydrick and The Texas Company's No. 1 Jeffrey, dry and abandoned, total depth 905 feet. C. W. Josey and others' No. 1 Farmer, dry and abandoned, total depth 854 feet. McKanna and The Texas Company's No. 1 Jeffery, oil sand 749-52 feet, initial production 34 bbls., total depth 752 feet. McMean & Williams' No. 1 Stewart Salter, dry and abandoned, total depth 555 feet. Parks & Stastny's No. 1 Orr dry and abandoned, total depth 575 feet. Westheimer & Daube's No. 9 Larimore and wife, oil sand 695-710 feet, initial production 168 bbls., total depth 710 feet. C. C. Williams' No. 1 Bullock, dry and abandoned, total depth 730 feet. Williams & Baker's No. 1 Duckworth, dry and abandoned, total depth 803 feet. Tower & McKanna's No. 1 Ware, dry and abandoned, total depth 3,820 feet. Young Brothers and Alexander's No. 6 Remington, oil sand 683-98 feet, initial production 300 bbls., total depth 698 feet. Young Brothers and Terrell's No. 3 Larimore, dry and abandoned, total depth 700 feet.

OIL-BURNING VESSELS

WASHINGTON, D. C., Sept. 8.—Vessels fitted for oil burning in 1914 aggregated only 1,310,209 tons, while in 1929 the total amounted to 19,420,895 tons, according to a statement by President J. R. Gordon of the Merchant Fleet Corp. of the United States. In 1902 there were 200 tankers and in 1929, 1,210 tankers with a total gross tankage of over 7,000,000 tons. There are now, Mr. Gordon stated, 1,250 tankers in service. In 1914 coal was used for propulsion of vessels to the extent of 89 per cent of the world's tonnage, but in 1929 this percentage had decreased to 59 per cent.

MARTIN & SCHWARTZ EXPANDS

Martin & Schwartz, Inc., Buffalo, N. Y., are established in a new factory four times the size of their old plant. The company was organized in 1922 by W. Paul Martin and Rudolph L. Schwartz as equipment jobbers to service stations and the oil industry. A contributing factor in Martin & Schwartz' growth has been its gasoline meter pump.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 67)

E. L. Chapman's No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur. ..... Shut down 1,302 ft.

Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F.R.R. Sur. ..... Shut down 2,510 ft.

Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 mi. S of Alpine ..... Shut down 1,750 ft.

COKE COUNTY

Arkansas Fuel Oil Co.'s No. 1 Stepp, 1,020 ft. NE, 2,340 ft. W of SE cor., Sec. 35, Blk. 1-A, H.&T.C. Sur. .... Cleaning out 4,256 ft.

CONCHO COUNTY

Beesley et al's No. 1 S. Waring Est., 1,320 ft. from S and E of A. T. Robinson Sur., Abst. 2,120 ..... Spudded and shut down.

Turner et al's No. 1 Borsig, 150 ft. from S of NE cor., G. Emmig Sur. 130, 6 mi. W of Paint Rock ..... Shut down 1,520 ft.

CRANE COUNTY

Cranfill Bros. and Gulf's No. 1 J. B. Tubb, 2,310 ft. from N and 330 ft. from E of Sec. 8, Blk. B-37, Public School Land ..... Drlg. 4,012 ft.

Cranfill Bros.' No. 1 Muir, 330 ft. from N and 2,310 ft. from W, Sec. 23, Blk. B-27, Public School Land ..... Spudded and shut down.

C. C. Duffey's No. 1-C Cowden Bros. & Co., 2,640 ft. from S and 3,960 ft. from W of Juan Cordona Sur... Shut down 2,815 ft.

CROCKETT COUNTY

Dixie Oil Co. and Amerada's No. 2 Powell, 258 ft. N and 2,349 ft. W of NE cor. of Sec. 42, T.C. Ry., but located in Sec. 52, Blk. BB ..... Drlg. 1,465 ft.

Doleman & Moore's No. 1 Perner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur. ..... Spudded and shut down.

Magnolia Pet. Co.'s No. 2 Hoover, 2,310 ft. from S and 335 ft. from E of Sec. 2, Blk. FF, B.&B. Sur. ..... Drlg. 995 ft.

CULBERSON COUNTY

Grisham & Hunter's No. 2 Garren, 2,475 ft. from S and 1,566 ft. from E, Sec. 20, Blk. 89, Public School Land ..... Shut down 1,520 ft.; show oil 1,400-15 ft.

Kornrumpf et al's No. 1 Garren, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land ..... Shut down 910 ft.

ECTOR COUNTY

C. P. Davis et al's No. 1 Hendricks, C SW, Sec. 46, Blk. 42, Twp. 2s, T.&P.R.R. Sur. ..... Shut down 4,012 ft.; moving in new engine.

Independent Oil & Gas Co.'s No. 1 Eidson, 1,250 ft. S and 2,144 ft. E of NW cor., Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur. ..... Shut down 3,800 ft.; 1,000 ft. oil in hole.

H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M.M.Br.&A. Sur. ..... Topped salt 865 ft.; cleaning out to set 8-in. casing at 2,375 ft.

T. P. Coal & Oil Co.'s No. 1 McKenzie, 1,650 ft. from S and 330 ft. from E of Sec. 282, Blk. 45, Twp. 2s, T.&P. Sur. ..... Total depth 3,870 ft.; plugged back to 3,775 ft.; shut down.

R. R. Penn et al's No. 1 Goodman et al, 2,640 ft. N and 330 ft. W of SE cor., Sec. 27, Blk. 44, T.&P.R.R. Sur... Shut down 4,398 ft.; show oil 4,043 and 4,120-30 ft.

Simms Oil Co. et al's No. 4 University, 1,650 ft. from S and 1,320 ft. from E of Sec. 1, Blk. 35 ..... Drlg. 400 ft.

Skelly Oil Co. and Republic Prod. Co.'s No. 1 McKenzie, 990 ft. from S line and 330 ft. from E line of Sec. 28, Blk. 45, Twp. 2s, T.&P. Sur. ..... Shut down 3,750 ft.; flowed 110 bbls. on July 12; shut in for storage.

EL PASO COUNTY

Lane-The Texas Company's No. 1 Malone, 2,110 ft. from SW and NW of Section 46, J. M. Tay Sur. ..... Shut down 3,089 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 2 Flannigan, 330 ft. from S and E of W half of Sec. 200, B.B.B.&C.R.R. Sur. .... 2,500 ft. oil in hole from 3,090-95 ft.; shut down 3,130 ft.; plugged back to 3,124 ft.; no results from 10-qt. shot.

Cranfill & Reynolds' No. 3 Willingham, 330 ft. from S and E of Sec. 207, B.B.B.&C. Sur. ..... Drlg. 460 ft.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 4, H.&G.N. Sur. ..... Spudded and shut down.

Richard's No. 1 Stoker, 330 ft. from N and W, Sec. 2, Blk. 2, G.&H. Sur. ..... Plugging to abandon; total depth 3,050 ft.

GLASSCOCK COUNTY

Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur... Total depth 2,956 ft.; fishing casing.

World Oil Co.'s No. 3-C McDowell, 2,310 ft. from S and W of NE cor., Sec. 21, Blk. 34, Twp. 2s, T.&P. Sur. .. Shut down 660 ft.; running 15½-in. casing.

HOWARD COUNTY

Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor., Sec. 129, Blk. 29, W.&N.W.R.R. Sur. ..... Sulphur water 1,433-46 ft.; shut down 1,456 ft.

Greene O. R. Co. et al's No. 1 Denman, 330 ft. from N and W of E half of NE, Sec. 14, Blk. 30, Twp. 1s. T.&P. Sur. ..... Drlg. 1,820 ft.

Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W, Sec. 45, Blk. 33 ..... 2,000 ft. water in hole; shut down 3,270 ft.; 2,000 ft. sulphur water in hole; will abandon.

Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Shut down 261 ft.

HUDSPETH COUNTY

Theison's No. 1 University, 2,050 ft. from S and 2,225 ft. from E of Sec. 17, Blk. E ..... Spudded.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ..... Shut down 3,155 ft.

Williams & Williams Drlg. Co.'s No. 1 Noelke, 200 ft. from N and 1,020 ft. from E of Sec. 8, City of San Antonio Sur. ..... Machine.

IRION COUNTY

Bristow et al's No. 1 Nutt, 180 ft. from NW of SW of NW, Sec. 6, Gonzales Co. School Lands ..... Drlg. 1,010 ft.

Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Subd. 8 ..... Shut down 1,105 ft.

Cromwell et al's No. 1 Tankersley, 150 ft. from N and 210 ft. from W of E half of Sec. 1,320, G.C.&S.F. Sur... Shut down 1,710 ft.; show oil 1,621-25 ft.

Straughn & Texannati Oil Co.'s No. 1 Tankersley, 150 ft. from S and 750 ft. from W of Sec. 4, Gonzales Co. School Lands ..... Rig up machine.

P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Show oil 7,931 ft.; shut down 8,-890 ft.; may drill deeper.

Webb et al's No. 1 Nutt, 150 ft. from S and 116 ft. from W of Blk. 5, Gonzales Co. School Land ..... Location.

F. F. Webb's No. 1 W. H. Williams, 200 ft. from E and 750 ft. from S line SW of NE Sec. 10, Gonzales Co. School Land ..... Shut down 100 ft.

JONES COUNTY

Gibson Johnson's No. 1 Hudspeth, 1,125 ft. from N and 483 ft. from E of Sec. 22, Edward Miles Sur. .... 600 ft. oil and water in hole; top pay 2,542 ft.; underreaming 5 3/16-in. casing; total depth 2,806 ft.

Pope et al's No. 1 Swann, 2,023 ft. from S and 400 ft. from E of I. Miley Sur. No. 281 ..... Drlg. 500 ft.

LOVING COUNTY

Arkansas Fuel Oil Co.'s No. 1 Dean, 990 ft. from NE and 2,310 ft. from SE Sec. 84, Blk. 1, W.&N.W. Sur. ..... Location.

Eppenauer et al's No. 1 Allen, 2,310 ft. from NE and NW lines, Sec. 90, Blk. 1, W.&N.W. Sur. ..... Shut down 215 ft.

Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Shut down 3,383 ft.

Hadlock et al's No. 2 Russell, 1,650 ft. SW of NE line, 2,310 ft. NW of SE line, Sec. 80, Blk. 1, W.&N.W. R.R. Sur. ..... Total depth 4,360 ft.; swabbing dry after swabbing 90 bbls. oil and 7 bbls. water after standing 3 days.

Henshaw et al's No. 1 Reagan & McElvain, 990 ft. from SE and 330 ft. from SW, Sec. 34, Blk. 1, W.&N.W. Sur. ..... Drlg. 2,960 ft.

Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. ..... Spudded 140 ft.; shut down.

Lockhart & Co.'s No. 3 Hubbard, 1,650 ft. from NE line, 330 ft. NW line of Sec. 83, Blk. 33, H.&T.C.R.R. Sur. Rigged up and shut down.

Miller et al's No. 1 Chapman, 225 ft. from NW and 285 ft. from SW line, Sec. 71, Blk. 1, W.&N.W. Sur. ..... Shut down 2,700 ft.

Rush et al's No. 1 Wheat, 1,650 ft. from NW and 330 ft. from SW of Sec. 35, Blk. 1, W.&N.W. Sur. ..... Drlg. 3,925 ft.

California Co.'s No. 2 Reagan & McElvain, 440 ft. from NW and SW, Sec. 84, Blk. 1, W.&N.W. Sur. ..... Drlg. 4,145 ft.

California Co.'s No. 4 Reagan & McElvain, 330 ft. from NE and 1,650 ft. from NW, Sec. 84, Blk. 1, W.&N.W... Drlg. 3,310 ft.

Lee O. White et al's No. 1 Russell et al, 320 ft. from NW and 2,200 ft. from SW, Sec. 80, Blk. 1, W.&N.W... Drlg. 3,312 ft.

MENARD COUNTY

Barnett et al's No. 3 Callan City Co., 300 ft. from S and W, Sec. 1, B.S.&F. Sur. ..... Show oil 709-11 ft.; shut down 1,270 ft.

Barnett et al's No. 4 Callan City Co., 1,200 ft. from S and 2,200 ft. from W, Sec. 1, B.S.&F. ..... Machine.

Panhandle Ref. Co.'s No. 2 Eckhart, 1,320 ft. from W and 1,320 ft. from S of Sec. 10, Blk. 2, T.W.N.G. Sur. ..... 500,000 ft. gas with show oil 2,945 ft.; shut down 3,200 ft.; to plug back to 2,955 ft. to save gas.

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor., Sec. 132, E.L.R.R. Sur. ..... Drlg. by tools 2,450 ft.

MIDLAND COUNTY

Kerwin et al's No. 1 Mathen, 2,310 ft. from N and 335 ft. from W line Sec. 40, W. L. Gray Sur. ..... Spudded.

MITCHELL COUNTY

Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. R.R. Sur. ..... Total depth 3,112 ft.; top pay 3,038 ft.; 1,000 ft. oil in hole; swabbing 40 bbls. in 24 hrs.

Morrison et al's No. 1 Poe et al, 660 ft. S and 1,980 ft. W parallel to section lines of NE cor., Sec. 8, Blk. 27, T.&P. Sur. ..... Spudded 10 ft. and shut down.

PECOS COUNTY

Barnes et al's No. 1 Sanford, 160 ft. from NW and 157 ft. from SW of Sec. 55, Blk. 10, H.&G.N. Sur. ..... Drlg. 1,160 ft.

Curry & Eakin's No. 1 Pecos Valley Oil Co., 1,050 ft. from SE and 1,470 ft. from SW, Sec. 36, Blk. 3, H.&T.C. Sur. ..... Drlg. 1,410 ft.

Dittman's No. 1 Jackson, 2,310 ft. from NE and 330 ft. from NW, Sec. 28, Blk. 3, H.&T.C. ..... Location.

Dittman's No. 1 Eaton, 2,310 ft. from SW and NW, Sec. 35, Blk. 3, H.&T.C. ..... Spudded and shut down.

Dittman's No. 2 Eaton, 990 ft. from SW and 330 ft. from SE, Sec. 35, Blk. 3, H.&T.C. ..... Location.

Dittman's No. 1 Eaton, 330 ft. from NE and SE, Sec. 37, Blk. 3, H.&T.C. ..... Location.

G. A. Henshaw, Jr., Inc.'s No. 1 University, 1,650 ft. from S and 990 ft. from E, Sec. 32, Blk. 16 ..... Top pay 1,670 ft.; estimated 15 bbls. oil per day; total depth 1,678 ft.

Humble Oil & Ref. Co.'s No. 1 Kokernot, 1,320 ft. from N line and 1,467 ft. from W line of Sec. 227, Blk. 10, G.H.&S.A. Sur. ..... Shut down 3,780 ft.

Humble Oil & Ref. Co.'s No. 1-B Thoman, 1,608 ft. from N and 4,062 ft. from E of Sec. 98, Blk. OW, G.C.&S.F. Sur. ..... Shut down 1,283 ft.

Independent O. & G. Co.'s No. 4 McDonald, 115 ft. from N and 2,485 ft. from E, Sec. 46, Blk. 12, H.&G.N. ... Drlg. 2,025 ft.

Magnolia Pet. Co.'s No. 1 Byrne, 2,490 ft. from SE and SW, Sec. 54, Blk. 10, H.&G.N. Sur. ..... Drlg. 920 ft.

McCurdy & Brown's No. 2 Tippett, 150 ft. from N and W of SE, Sec. 40, Blk. 194, G.C.&S.F. ..... Location.

Messenger et al's No. 2 Byrne, 2,490 ft. from NE and SE of Sec. 54, Blk. 10, H.&G.N. Sur. ..... Shut down 1,367 ft.; flowing 45 to 50 bbls. per day.

Messenger et al's No. 1 Butz, 1,830 ft. from NW and 1,170 ft. from SW, Sec. 54, Blk. 10, H.&G.N. Sur. .... Shut down 740 ft.

J. R. Miller et al's No. 1 Bennett, 359 ft. W of CWL, Sec. 1, Blk. 119, G.C.&S.F. ..... Shut down 1,700 ft.

J. D. O'Mara's No. 1 Bennett, Sec. 593, 1,460 ft. from S, 150 ft. from E, G.C.&S.F. ..... Total depth 1,230 ft.; top pay 1,089 ft.; plugged back to 1,185 ft.; will drill deeper.

J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ..... Underreaming 2,200 ft.

Oregon Oil Corp.'s No. 2 Yates, 150 ft. from S and W of Sec. 58, Blk. 1, I.&G.N. Sur. ..... Shut down 2,440 ft.

Perren Oil Co.'s No. 2 Eaton, C of E of W, Sec. 27, Blk. 3, H.&T.C. Sur. ..... Shut down 1,568 ft.

Plymouth Oil Co.'s No. 1 Perry, 330 ft. from N and W Sec. 13, Blk. 194, G.C.&S.F. ..... Total depth 1,920 ft.; top pay 1,892 ft.; flowing 25 bbls. per day.

Plymouth Oil Co.'s No. 4 Perry, 300 ft. from N and 420 ft. from E, Sec. 14, Blk. 194, G.C.&S.F. Sur. ..... Drlg. 200 ft.

R. W. Porpus et al's No. 1 State Land, 330 ft. S and W lines of NE, Sec. 28, Blk. OW, T.C.R.R. Sur. ..... Spudded and shut down.

Pure Oil Co.'s No. 1 Harrison, 2,310 ft. from N and 330 ft. from W of Sec. 203, Blk. 3, T.&P. Sur. ..... Drlg. 1,690 ft.

Riser & White's No. 1 Riser, 2,297 ft. from S and 997 ft. from E of Sec. 24, Blk. 12, H.&G.N. Sur. ..... Shut down 360 ft.

Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. ..... Shut down 2,330 ft.

California Co.'s No. 1 Fromme, 330 ft. from NE and NW, Sec. 106, Blk. 10, H.&G.N. Sur. ..... Shut down 1,650 ft.

California Co. et al's No. 1 Thomas, 990 ft. from NW and SW, Sec. 31, Blk. 34, H.&T.C. Sur. ..... Location.

The Texas Company's No. 1 Wright, 660 ft. S and E of NW cor., Sec. 9, Blk. 131, T.&St.L. Sur. ..... Shut down 3,504 ft.

Warner's No. 1 Webb, 2,550 ft. from NW and 6,100 ft. from NE of Sec. 311, Abst. 756, C. McGinley Sur. ... Drlg. 600 ft.

Williams & Moran's No. 1 Heiner estate, 450 ft. from N and 2,490 ft. from W of Sec. 590, G.C.&S.F. Sur. ..... Location.

PRESIDIO COUNTY

L. C. Brite's No. 4 Brite, 271 ft. from N and 1,188 ft. from E lines of Sec. 245, Blk. 4 ..... Shut down 2,630 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 ..... Top pay 8,220 ft.; flowed 30 bbls. 24 hrs. Aug. 27; will drill deeper; total depth 8,220 ft.

Big Lake Oil Co.'s No. 5-C University, 625 ft. from S and 200 ft. from W of Sec. 25, Blk. 9 ..... Drlg. 3,010 ft.

Texon O. & L. Co.'s No. 4-B University, 1,120 ft. from N and W of Sec. 26, Blk. 9 ..... Drlg. 83 ft.

REEVES COUNTY

H. T. Hansford's No. 1 Williams, 150 ft. from S and W Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 380 ft.

Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W Sec. 16, Blk. 50 ..... Shut down 1,860 ft.; show oil 1,820 ft.; cleaning out after two shots; filled up 200 ft. with oil.

Riggs & Smith's No. 1 Lee Monroe, 2,390 ft. from NE and 330 ft. from NW line, Sec. 34, Blk. 7, H.&L.N. Sur. ..... To start drilling.

Salsbury & Gregory's No. 1 Young Bell, 1,170 ft. from N and 330 ft. from E of Sec. 7, Blk. 5, H.&G.N. ..... Shut down 370 ft.

Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. .. Drlg. 4,415 ft.

California Co.'s No. 1 Kioh & Rumsey, 1,650 ft. from S and E of Sec. 13, Blk. 54, Twp. 4, T.&P. Sur. ..... Shut down 3,604 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 419 ..... Show oil 2,308-95 ft.; gas pocket 2,303 ft.

George W. Boyce's No. 1 Lang, 2,310 ft. N, 6,900 ft. E, Sec. 262 ..... Show oil 2,028 ft.; shut down 2,643 ft.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C of NW Sec. 56, Blk. 1, G.H.&S.A.R.R. Sur. ..... Drlg. 4,685 ft.

Interstate's No. 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Plugging back to shoot oil and gas show at 4,915-25 ft.; total depth 6,880 ft.

Teas & Gant's No. 1 Allison, 1,320 ft. N and E of SW cor. of Sec. 37, Blk. K, G.H.&S.A.R.R. Sur. ..... Drlg. 3,550 ft.

Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C.R.R. Sur. ..... Shut down 750 ft.

Westyde et al's No. 1 Meador, 1,320 ft. from S and E of Sec. 661, G.C.&S.F. Sur. ..... Location.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. Sur. ..... Fishing 4,912 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 320 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ..... Cleaning out 3,501 ft.; est. 10 bbls. on pump.

Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E, Sec. 12, Blk. 3, H.&T.C.R.R. Sur. ..... Plugging 4,373 ft.

Camp Spring Oil Co.'s No. 1 Strayhorn, 330 ft. from S and 1,980 ft. from W of Sec. 154, Blk. 3, H.&G.N... Underreaming 750 ft.

I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C.R.R. Sur. ..... Spudded and shut down.

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Cleaning out 4,970 ft.

Seifert & Dibbl's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 155, Blk. 97, H.&T.C. Sur. ..... Cellar.

Transcontinental Oil Co.'s No. 1 Peckham, 330 ft. from S and W of R. N. Miller Sur. ..... Drlg. 3,920 ft.

STERLING COUNTY

Beesley et al's No. 1 Brown, 2,940 ft. N and 300 ft. W of SW cor. Sec. 7, Blk. 22, H.&T.C., but in Sec. 16, Blk. 21, Twp. 4s, T.&P. ..... Spudded.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Wilson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Location.

TAYLOR COUNTY

Clark et al's No. 1 Kendall, 250 ft. from N and W of farm in Willis Avery Sur. ..... Shut down 2,305 ft.

Eastland Oil Co.'s No. 1 Hunter, 1,574 ft. from E and 3,418 ft. from S of William R. Ellis Sur. ..... Total depth 2,389 ft.; swabbed 188 bbls. oil in 24 hrs; top pay 2,380 ft.

Gibson & Johnson's No. 1 Bingham, 330 ft. N and E of SW cor. their 270.8-acre tract, Sec. 31, Guadalupe County School Land ..... Shut down 2,460 ft.

John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor., Sec. 46, Lunatic Asylum Land ..... Show oil 4,917 ft.; drlg. 6,160 ft.

Hucony Oil Co. et al's No. 1 Richie, C SE Sec. 10, Blk. A, S.P.R.R. Sur. ..... Drlg. 2,230 ft.

Sanger et al's No. 1 City of Abilene, 830 ft. from S and 1,400 ft. from E of Sec. 66, Blind Asylum Lands ..... Shut down.

Sanger O. & R. Co.'s No. 1 Osborn, 330 ft. from SW of SE, Sec. 68, Blind Asylum Lands ..... Rig.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 155, Blk. D, M.-K.-T.R.R. Sur. ..... Shut down 2,180 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.

Miller Bros.' No. 1 Allison & Burke, C NW cor. Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.

Mrs. J. B. McPhees' No. 1 Sam Belt, C Sec. 17, Blk. D-7, E.L.R.R. Sur. ..... Shut down 880 ft.; moved off machine.

Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F.R.R. Sur. ..... Fishing 5,320 ft.

Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 640 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Nosworthy, 2,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... Cleaning out 435 ft.

Cosden Oil Co.'s No. 1 William Anson, 2,310 ft. S, 330 ft. W of NE cor., Sec. 20, Blk. 24, H.&T.C.R.R. Sur. .... Location.

Ellis' No. 3 Lewis, 1,350 ft. S and 450 ft. E of SW cor. James Webb Sur. 77, but in Albert Black Sur. 75 ... Shut down 1,101 ft.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,628, E. H. Dinger Sur. ... Plugged back to 2,405 ft. to straighten hole; shut down 2,447 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P.R.R. Sur. ... Drlg. 1,255 ft.
Phillips Pet. Corp.'s No. 1 Gulden, 1,260 ft. from N and 1,583 ft. W of Sec. 77, James Webb Sur. ... Drlg. 3,370 ft.
E. W. Wiley et al's No. 1 Maier, 200 ft. from E, 110 ft. from N, Sec. 6, Blind Asylum Land ... Shut down 815 ft.

UPTON COUNTY

Cordova Union Land Co.'s No. 1 fee, 330 ft. from S and E line of Sec. 1, Blk. 1, M.-K.-T.R.R. Sur. ... Location.
Gulf Prod. Co.'s No. 1 King Ranch Oil & Lignite Co., 330 ft. from S and 990 ft. from W line Sec. 28, Blk. 2, M.-K.-T. Sur. ... Location.
Penn & Shell Pet. Corp.'s No. 1 Anderson, 1,320 ft. from S and E Sec. 37, Blk. Y, C.C.S.D.&R.G.N.G. ... Location.

VAL VERDE COUNTY

A. Bluhm's No. 1 Yoast, 1,760 ft. N, 600 ft. W of NE cor., Sec. 31, Blk. 3, I.&G.N. Sur. ... Location.
Independent Operators' No. 1 Whitehead, SE SE, Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ... Shut down 5,360 ft.
O. O. Owen's No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ... Shut down 6,760 ft.
Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 33, Blk. D-8, E.L.&R.R. Sur. ... Show oil 1,525 ft.; fishing 3,035 ft.; may skid over and start new hole.
Valvert Oil Corp.'s No. 1 Bassett, C NE. Sec. 47, Blk. Y ... Shut down 4,009 ft.

WARD COUNTY

Atlantic Oil Prod. Co.'s No. 1 Reynolds & Miller, 330 ft. from NE and NW Sec. 15, Blk. 32, H.&T.C. ... Drlg. 750 ft.
Bradford et al's No. 1 Murry, 1,782 ft. from NW and 2,157 ft. from SW, Sec. 11, Blk. 5, H.&T.C. Sur. ... Shut down 2,195 ft.
Gulf Prod. Co.'s No. 5 Hutchings, 330 ft. from S and W Sec. 3, Blk. F, G.&M.M.B.&A. Sur. ... Shut down 2,560 ft.; shows oil 2,515 ft., 2,555-60 ft.
Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW Sec. 18, Blk. 5, H.&T.C. Sur. ... Show gas 1,960-70 ft.; filling up with sulphur water 2,520-77 ft.; salt water 2,545 ft.; plugged back to 2,477 ft.
Gulf Production Co.'s No. 13 O'Brien, 330 ft. from S and 2,310 ft. from W Sec. 6, Blk. F, G.M.M.B.&A. ... Drlg. 1,340 ft.
Gulf Production Co.'s No. 14 O'Brien, 330 ft. from S and E, Sec. 16, Blk. F ... Drlg. 1,425 ft.; top salt 1,195 ft.
Magnolia Pet. Co.'s No. 1 Sealy, 330 ft. from S and E of NE cor., Sec. 46, Blk. 2, G.&M.M.B.&A. Sur. ... Drlg. 1,215 ft.
R. F. Owens' No. 1 Johnson, 100 ft. from NE and 1,100 ft. from SE of Sec. 8, Blk. 33, H.&T.C.R.R. Sur. ... Shut down 1,200 ft.
Penn and Atlantic's No. 1-B Pecos Mercantile Co., 990 ft. from NW and 2,310 ft. from NE, Sec. 16, Blk. 34, H.&T.C. Sur. ... Shut down 2,605 ft.; top pay 2,550 ft.; made one small head; water decreased.
Richardson et al's No. 4 O'Brien et al, 330 ft. from N and 2,340 ft. from W, Sec. 5, Blk. F, G.M.M.B.&A. ... Drlg. 2,361 ft.
Tex-Oil Prod. Co.'s No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 152, Blk. 34, H.&T.C.R.R. Sur. ... Shut down 5,077 ft.; show oil 5,070 ft.; shot 140 qts. from 5,047-77 ft.; no results.
Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 ... Standard rig.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ... Shut down 2,520 ft.
T. P. Coal & Oil Co.'s No. 1 Barker, 330 ft. from SW and NW of Sec. 27, Blk. B-29, Public School Land ... Drlg. 175 ft.

WINKLER COUNTY

Atlantic & Maxwell's No. 1 Daugherty, 1,650 ft. from S and 2,310 ft. from E, Sec. 16, Blk. 74, Public School Land ... Shut down for pipe line; total depth 3,081 ft.
Magnolia Pet. Co.'s No. 3 Scarborough, 1,650 ft. from N and 990 ft. from W of Sec. 1, Blk. 77, Public School Land ... Spudding.
A. W. Phillips' No. 2 Brown et al, 2,000 ft. S and W of NE. Sec. 4, Blk. B-5, Public School Land ... Shut down 3,120 ft.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 ... Shut down 4,639 ft.
Shell and The Texas Company's No. 1-B Cowden, 600 ft. from S and W of Sec. 39, Blk. B-5, Public School Land ... Shut down 3,116 ft.; top pay 2,585 ft.; flowing 124 bbls. per day, 40 per cent water.
Simms Oil Co.'s No. 1 Sealy, C of SE, Sec. 49, Blk. F, G.M.M.B.&A. Sur. ... Drlg. 3,110 ft.
Turman et al's No. 1 Daugherty, 2,310 ft. from E and 2,310 ft. from S line, Sec. 16, Blk. 74, Public School Land ... Building derrick.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 68)

Anderson & Bean's No. 1 Thompson et al, 330 ft. S and W, NW, Sec. 126, Blk. 3, I.&G.N. Sur. ... Drlg. 2,475 ft.
Atlantic Oil Prod. Co.'s No. 1 Reynolds, 330 ft. N and W, NE SE, Sec. 84, Blk. 3, I.&G.N. Sur. ... Drlg. 2,280 ft.
British-American Oil Co. and Shell Pet. Corp.'s No. 1 Smith, 330 ft. S and E, NW, Sec. 138, Blk. 3, I.& G.N. Sur. ... Location.
British-American Oil Co. and Shell Pet. Corp.'s No. 1 Richardson, 330 ft. N and W, E½, Sec. 127, Blk. 3, I.&G.N. Sur. ... Location.
Beck's No. 1 Sullivan, 330 ft. N and E, W½ NW, Sec. 135, Blk. 3, I.&G.N. Sur. ... Spudding.
Cockrell-McIlroy Oil Co.'s No. 1 Baer, 330 ft. S and W, NE, Sec. 126, Blk. 3, I.&G.N. Sur. ... S.D. 3,291 ft; S.O. 3,275 ft; C.O. after shot.
Cockrell-McIlroy Oil Co.'s No. 1 Jackson, 330 ft. N and E of E 110 ac., SE, Sec. 133, Blk. 3, I.&G.N. Sur. ... Drlg. 2,765 ft.
Continental Oil Co.'s No. 1 Combs & Worley, 330 ft. S and E, NE, Sec. 38, Blk. 3, I.&G.N. Sur. ... T.D. 2,905 ft; T.P. 2,885 ft; to plug back and test.
Continental Oil Co.'s No. 1 Brown, 330 ft. S and W, Sec. 115, Blk. 3, I.&G.N. Sur. ... Drlg. 2,532 ft.
Danciger O. & R. Co.'s No. 2 Bradford, C SW NE, Sec. 148, Blk. B-2, H.&G.N. Sur. ... S.D. 2,580 ft.
Danciger O. & R. Co.'s No. 3 Arnold, 330 ft. N and E, SE, Sec. 149, Blk. 3, I.&G.N. Sur. ... Rig.
Danciger O. & R. Co.'s No. 1 McLaughlin, 330 ft. S and E, NW, Sec. 33, Blk. B-2, H.&G.N. Sur. ... Drlg. 2,284 ft.
Danciger O. & R. Co.'s No. 1 Catlin et al, 175 ft. S, 300 ft. E of N 71 ac. of E 231 ac., Sec. 57, Blk. 3, I.&G.N. Sur. ... T.D. 3,120 ft; swbng. 20 bbls. oil per day.
Dye & Gillette's No. 1 McConnell, 330 ft. N and W, W½ SE, Sec. 187, Blk. 3, I.&G.N. Sur. ... Drlg. 2,810 ft.
Empire G. & F. Co.'s No. 2-B Archer, 330 ft. S and E, SW, Sec. 139, Blk. 3, I.&G.N. Sur. ... Rigging up.
Empire G. & F. Co.'s No. 2 Sailor, 330 ft. N and W, NE, Sec. 138, Blk. 3, I.&G.N. Sur. ... Spudding.
Dick Graham's No. 1 Sullivan, 792 ft. N and W, Sec. 136, Blk. 3, I.&G.N. Sur. ... S.D. 2,340 ft.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W cor. SE, Sec. 200, Blk. B-2, H.&T.N. Sur. ... S.D. 2,283 ft.
Magnolia Pet. Co.'s No. 1 Cubine, 330 ft. N and W, NE, Sec. 36, Blk. 25, H.&G.N.R.R. Sur. ... 9,000,000 ft. gas 2,325-35 ft.; S.D. 2,775 ft.
Magnolia Pet. Co.'s No. 1 Sailor, 990 ft. S, 330 ft. W, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur. ... Fishing 2,746 ft.
Magnolia Pet. Co.'s No. 2 Sailor, 330 ft. S and W, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur. ... Cellar.
Midwest Exptln. Co.'s No. 1 Cobb, 1,320 ft. W, 400 ft. S, NW, Sec. 165, Blk. 3, I.&G.N. Sur. ... Drlg. 2,630 ft.
Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ... 3,500,000 ft. gas 2,295 ft; T.D. 3,263 ft; shot 140 qts. 3,160-3,258 ft.
Operators R. & P. Co.'s No. 1 Arnold, 330 ft. S and E, E½ NE, Sec. 149, Blk. 3, I.&G.N. Sur. ... Cellar.
W. A. Scott's No. 1 Cobb, 330 ft. S, 425 ft. W, N½ SE, Sec. 184, Blk. 3, I.&G.N. Sur. ... S.D. 2,580 ft; 38,000,000 ft. gas 2,335-40 ft.
Shamrock O. & G. Co.'s No. 1 Reynolds, 330 ft. N and E, SE SE, Sec. 84, Blk. 3, I.&G.N. Sur. ... Spudding.
Smith's No. 1 Morse, 200 ft. S, 330 ft. W, Sec. 6, Blk. 26, H.&G.N. Sur. ... 3,000,000 ft. gas 2,150-70 ft.; S.D. 2,795 ft.; 400 ft. oil in hole.
Sullivan et al's No. 1 Morse, 150 ft. W, 330 ft. S, N½ SW, Sec. 16, Blk. A-9, H.&G.N. Sur. ... Drlg. 2,300 ft.
Southern Exptln. Co.'s No. 2 Vaughn, 330 ft. S and E, SW, Sec. 138, Blk. 3, I.&G.N. Sur. ... Rigging up.
The Texas Co.'s No. 2 Brown, 170 ft. N, 330 ft. E, NW, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur. ... Drlg. 3,190 ft; S.O. 3,165-77 ft; 1,200 ft. oil in hole.
Tedesco Oil Co. et al's No. 1 Morse, 330 ft. N and W, NE SW, Sec. 1, Blk. 26, H.&G.N. Sur. ... S.D. 2,522 ft; C.O.

HUTCHINSON COUNTY

Dixon Creek Oil Co.'s No. 1 Johnson Bros., 330 ft. N and W of E 60 ac. of NW 100 ac., Sec. 1, Blk. X03, H.&O.B. Sur. ... Drlg. 450 ft.
Great Plains O. & G. Co.'s No. 1 Sanford, C of S 160 ac. of N 320 ac., Sec. 87, Blk. 46, H.&T.C. Sur. ... Drlg. 1,650 ft.
Holmes et al's No. 3 Quinn, 330 ft. S and W, Sec. 7, Blk. 9, I.&G.N. Sur. ... Drlg. 3,040 ft.
Huber & Co.'s No. 1 Christian, 330 ft. E, 990 ft. N, SW Sec. 33, Blk. Y, A.&B. Sur. ... T.D. 3,023 ft; T.P. 3,006 ft; 900 ft. oil in hole.
Huber Prod. Co.'s No. 1 Johnson Bros., 330 ft. N and E, E½ NW, Sec. 30, Blk. Y, A.&B. Sur. ... Spudded.
Huber Prod. Co.'s No. 1 Johnson Bros. (Pure), 330 ft. S and E of E 240 ac., Sec. 29, Blk. Y, A.&B. Sur. ... Drlg. 210 ft.
Phillips Pet. Co.'s No. 1 Herring, 330 ft. N and E, W½, Sec. 7, Blk. X02, H.&O.B. Sur. ... Drlg. 2,725 ft.
Phillips Pet. Co.'s No. 1 Pease, 330 ft. S and E, Sec. 9½, Z. E. Collier Sur. ... S.D. 945 ft.
Prairie O. & G. Co.'s No. 1 Read, C SW, J. M. McDonald Sur. ... Building rig.
Sinclair O. & G. Co.'s No. 1 Johnson Bros., 330 ft. N and E, NW, Sec. 32, Blk. Y, A.&B. Sur. ... S.G. 2,230-54 ft.; S.D. 2,905 ft.; 39,000,000 ft. gas 2,340 ft.
Sinclair O. & G. Co.'s No. 1-C Johnson Bros., 330 ft. N and W, NE, Sec. 32, Blk. Y, A.&B. Sur. ... Drlg. 300 ft.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. ... S.O. 3,065 ft. and 3,108-10 ft.; S.D. 3,110 ft.
Spurlock et al's No. 1-A Christian, 440 ft. S, 330 ft. W, NE cor. SE SE, Sec. 33, Blk. Y ... 60,000,000 ft. gas; S.D. 3,219 ft; shot 140 qts. 3,150-3,220 ft; C.O.
Stanysylvania Oil Co.'s No. 1 Whittenburg, 330 ft. S and W, Sec. 129, Blk. Z, E.L.&R.R. Sur. ... Drlg. 2,250 ft.

LIPSCOMB COUNTY

Brown et al's No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ... S.G. 3,760 ft.; S.D. 4,142 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ... Lowering 5 3/16-in. csg.; T.D. 5,003 ft.

LUBBOCK COUNTY

Center Oil Co's No. 1 Bowles Ranch ... Small S.O. 1,133-40 ft.; S.D. 4,167 ft.

MOORE COUNTY

Dana O. & G. Co.'s No. 1 R. Vtey, 330 ft. N, 330 ft. E, W½ SE, Sec. 135, T.&N.O. Sur. ... Location.
L. D. Gaunt's No. 1 W. H. Reeler, 330 ft. N, 330 ft. E, N½ E½ NE, Sec. 191, T.&N.O. Sur. ... Location.
Sunray Oil Co.'s No. 1 C. R. Jones, 330 ft. E, 330 ft. S, W½ SW, Sec. 164, T.&N.O. Sur. ... Location.
Shamrock O. & G. Co.'s No. 1 Coffee, 330 ft. E, 330 ft. N, E 160-ac. tr., Sec. 355, H.&T.C. Sur. ... Building rig.
Delmar Oil Co.'s No. 1 Jones, 990 ft. E, 330 ft. N, NW, Sec. 171, Blk. 3-T, T.&N.O. Sur. ... Rebldg. rig 3,010 ft.
Gulf Prod. Co.'s No. 1 Kilgore, C SW, Sec. 22, Blk. P.Mc., E.L.R.R. Sur. ... Gas estimated 15,000,000 ft. 3,050-60 ft.; T.D. 3,645 ft.; to complete as gasser.
Texas P. L. Co.'s No. 1 Sneed, Jr., C NE, Sec. 46, Blk. 6-T, T.&N.O. Sur. ... S.D. 2,695 ft.
Texas Interstate P. L. Co.'s No 1 Sneed, Jr., C NE, Sec. 48, Blk. 6-T, T.&N.O. Sur. ... Location.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ... S.D. 580 ft.

OLDHAM COUNTY

Chambers et al's No. 1 Herring, CNL, Sec. 29, Blk. S, G.C.&S.F. Sur. ... Spudding.

POTTER COUNTY

Canadian River Gas Co.'s No. 1 McBride estate "A," 4,950 ft. S, 330 ft. W, E½ S½, Sec. 98, Blk. 46, H.&T.C. Sur. ... S.D. 2,000 ft.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 ... S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. A-5 ... Shot 10 qts. 5,270-93 ft.; S.O. 5,281 ft.; S.D. 5,992 ft.

WHEELER COUNTY

Davis et al's No. 1 Stuckey, C NE SW, Sec. 92, Blk. 17, H.&G.N. Sur. ... Drlg. 1,625 ft.
Johnson et al's No. 2 Hicks, 890 ft. W, 990 ft. S, Sec. 49, Blk. 17, H.&G.N. Sur. ... 15,000,000 ft. gas 1,810-1,906 ft; S.D. 1,920 ft.
Magnolia Pet. Co.'s No. 2 Worley, 330 ft. N and W, NE, Sec. 39, Blk. 24, H.&G.N. Sur. ... Fishing 1,530 ft.
McGee et al's No. 1 Jolly, C NE, Sec. 15, Blk. A-8, H. &G.N. Sur. ... T.D. 2,030 ft.
Lone Star Gas Co.'s No. 2 Brown, 1,980 ft. N and E, Sec. 53, Blk. 23, H.&G.N. Sur. ... Drlg. 400 ft.
Lone Star Gas Co.'s No. 1 Purcell, 1,980 ft. S, 660 ft. E, Sec. 51, Blk. 17, H.&G.N. Sur. ... Location.
Murchison & Fain's No. 1 Harvey, 1,980 ft. S and E, Sec. 56, Blk. 23, H.&G.N. Sur. ... Location.
Murchison & Fain's No. 1 Hanes, C NW NW, Sec. 31, Blk. 17, H.&G.N. Sur. ... Drlg. 1,450 ft.
Wischkamper et al's No. 1 Kiser, 330 ft. N and E of SW, Sec. 33, Blk. 17, H.&G.N. Sur. ... Drlg. 2,040 ft.
Woodley et al's No. 1 Sloss & Admire, 660 ft. N, 330 ft. E, Sec. 47, Blk. 13, H.&G.N. Sur. ... S.D. 1,290 ft.
Vollmert's No. 1 Porter, 330 ft. S and E, NE, Sec. 15, Blk. 27, H.&G.N. Sur. ... S.D.

BUREAU OF MINES JULY STATISTICS ON CRUDE AND REFINED PRODUCTS

IMPORTS AND EXPORTS OF CRUDE PETROLEUM AND MAJOR REFINED PRODUCTS*
(Thousands of barrels of 42 U. S. gallons)

	July, 1930 Total	July, 1930 Daily av.	June, 1930 Total	June, 1930 Daily av.	Jan.-July, 1930	Jan.-July, 1929
CRUDE PETROLEUM:						
Imports:	5,877	190	5,767	192	37,007	49,974
From Mexico	1,246	40	1,190	40	5,225	7,151
From Venezuela	3,531	114	3,322	111	22,199	33,835
From Colombia	987	32	1,144	38	8,151	7,154
From other countries	113	4	111	3	1,432	1,834
Exports:						
Domestic crude oil	1,973	64	2,508	84	14,067	14,612
To Canada	1,643	53	2,073	69	11,058	12,238
To other countries	330	11	434	15	3,008	2,367
Shipments	....	....	1	....	1	7
Foreign crude oil	....	....	....	....	....	....
REFINED PRODUCTS:						
Gasoline:						
Imports	1,741	56	1,670	56	9,899	4,449
Exports	5,598	181	7,126	238	39,763	35,036
To United Kingdom	1,682	54	2,469	82	12,141	10,176
To France	734	24	618	21	5,717	4,993
To Canada	500	16	493	16	2,316	2,833
To other countries	2,595	84	3,383	113	18,880	16,319
Shipments	87	3	163	6	709	715
Kerosene:						
Exports	1,034	33	1,796	60	10,194	11,606
To China	321	10	268	9	1,592	2,111
To United Kingdom	169	6	443	15	1,516	1,708
To other countries	531	17	1,071	36	6,906	7,647
Shipments	13	....	14	....	180	140
Gas oil and fuel oil:						
Imports	2,286	74	2,287	76	15,383	9,574
Exports	3,095	100	3,950	132	22,919	21,992
To Chile	305	10	390	13	3,658	3,584
To Panama	292	9	166	6	1,749	1,878
To other countries	2,257	73	2,946	98	16,084	14,669
Shipments	241	8	448	15	2,428	1,861
Lubricants:						
Exports	922	30	986	33	6,270	6,769
To United Kingdom	142	5	161	5	1,238	1,165
To France	159	5	174	6	938	975
To other countries	615	20	644	22	4,041	4,570
Shipments	6	....	7	....	53	59
Wax (thousands of lbs.):						
Imports	1,394	45	1,522	51	17,373	21,781
Exports	20,391	658	23,015	767	156,040	166,308
To United Kingdom	6,902	223	7,566	252	39,846	38,405
To Italy	985	32	2,403	80	19,836	14,874
To other countries	12,502	403	13,046	435	96,343	112,998
Shipments	2	....	....	....	15	31

*From Bureau of Foreign and Domestic Commerce.

RUNS TO STILLS AND OUTPUT OF REFINERIES, JULY, 1930
(Thousands of barrels of 42 U. S. gallons)

	Crude oil: Domestic	Crude oil: Foreign	Crude oil: Total	Unfinished oils rerun	Natural gasoline	Total input
East Coast	9,633	5,078	14,711	1,229	147	16,087
Appalachian	2,662	.....	2,662	130	54	2,846
Ind., Ill., Ky., etc.	9,384	.....	9,384	319	231	9,934
Okla., Kans., Mo.	9,546	.....	9,546	393	463	10,402
Texas	17,746	89	17,835	1,020	1,055	19,910
Louisiana and Arkansas	4,991	238	5,229	389	320	5,938
Rocky Mountain	1,836	.....	1,836	536	130	2,502
California	17,441	.....	17,441	*350	†1,775	19,566
United States total	73,239	5,405	78,644	4,366	4,175	87,185
Texas Gulf Coast	12,270	89	12,359	875	793	14,027
Louisiana Gulf Coast	3,224	238	3,462	6	210	3,678

	Gas oil and fuel oils: Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Total	Lubricants	Wax (thousands of lbs.)‡
East Coast	4,980	596	1,646	5,013	6,659	869	20,160
Appalachian	1,231	300	140	307	447	435	7,840
Ind., Ill., Ky., etc.	5,498	341	829	1,417	2,246	388	2,520
Okla., Kans., Mo.	5,551	698	391	2,396	2,787	278	2,800
Texas	8,906	921	1,336	5,560	6,896	705	3,640
Louisiana and Arkansas	2,270	434	639	1,410	2,049	73	6,720
Rocky Mountain	1,205	94	98	384	482	45	1,960
California	8,024	545	1,647	7,810	9,457	225	.....
United States total	37,665	3,929	6,726	24,297	31,023	3,018	45,640
Texas Gulf Coast	6,297	652	1,064	3,397	4,461	682	3,360
Louisiana Gulf Coast	1,578	369	385	791	1,176	60	6,720

	Coke‡ (tons)	Asphalt‡ (tons)	Other finished products: Road oil	Other finished products: Miscellaneous	Other finished products: Total	Unfinished products	Shortage
East Coast	12,600	158,500	93	46	139	1,205	631
Appalachian	2,700	7,800	.....	29	29	151	168
Ind., Ill., Ky., etc.	51,000	51,800	268	351	619	189	99
Okla., Kans., Mo.	31,800	4,400	82	131	213	152	527
Texas	42,200	27,800	31	10	41	909	1,151
Louisiana and Arkansas	9,800	44,600	58	126	184	410	199
Rocky Mountain	11,000	400	69	48	117	434	60
California	100	38,200	208	160	368	148	588
United States total	161,200	333,500	809	901	1,710	3,598	3,423
Texas Gulf Coast	34,500	27,800	31	1	32	739	823
Louisiana Gulf Coast	9,600	32,100	.....	122	122	34	88

*Includes 108,000 bbls. net tops rerun. †Includes 105,000 bbls. run through pipe lines. ‡Wax, coke, and asphalt equivalent to 280 pounds per barrel and 5.1 and 5.5 bbls. per ton respectively.

PRODUCTION OF MOTOR FUEL
(Thousands of barrels of 42 U. S. gallons)

	July, 1930 Total	July, 1930 Daily av.	June, 1930 Total	June, 1930 Daily av.	Jan.-July, 1930	Jan.-July, 1929
Gasoline produced at refineries:						
Straightrun	19,404	626	19,525	651	137,206	141,826
Cracked	14,086	454	13,675	456	94,197	77,990
Natural gasoline:						
Blended at refineries	4,070	132	3,768	125	25,414	23,424
Run through pipe lines*	105	3	111	4	1,247	1,193
Total	37,665	1,215	37,079	1,236	258,064	244,433
Other natural gasoline:						
Blended at plants†	22	1	23	1	167	400
Sold direct to jobbers	150	5	200	6	1,450	350
Benzol produced‡	224	7	235	8	1,697	1,790
Total motor fuel	38,061	1,228	37,537	1,251	261,378	246,973

*To refineries in California. †East of California. ‡Estimated with production of by-product coke as a basis.

STOCKS OF CRUDE PETROLEUM
(Thousands of barrels of 42 U. S. gallons)

	July 31, 1930	June 30, 1930	July 31, 1929
EAST OF CALIFORNIA:			
At refineries by location:			
East Coast: Domestic	10,277	9,599	9,392
Foreign*	4,198	4,349	4,995
Appalachian	2,977	3,078	2,723
Indiana, Illinois, Kentucky, Michigan, etc.	3,150	3,131	3,119
Oklahoma, Kansas and Missouri	5,372	5,653	6,271
Texas: Inland	2,282	†2,193	1,753
Gulf Coast: Domestic	9,752	†9,898	10,512
Foreign*	219	221	534
Arkansas and inland Louisiana	1,105	1,059	1,511
Louisiana Gulf Coast: Domestic	5,432	5,012	4,160
Foreign	855	895	1,530
Rocky Mountain	1,571	1,634	1,933
Total	47,140	46,772	48,333
At refineries by origin:			
Pennsylvania grade	2,737	2,881	(‡)
Other Appalachian (including Kentucky)	842	809	(‡)
Lima, Northeast Indiana, Michigan	118	100	(‡)
Illinois-Southwest Indiana	122	131	(‡)
North Louisiana and Arkansas	4,880	4,765	(‡)
West Texas and southeast New Mexico	5,166	4,854	(‡)
Oklahoma, Kansas, North Texas, etc.	19,047	18,615	(‡)
Gulf Coast: Grade A	4,336	4,314	(‡)
Grade B	3,050	3,181	(‡)
Rocky Mountain	1,569	1,631	1,933
California	1	26	(‡)
Foreign*	5,272	5,465	7,059
Total	47,140	46,772	48,333
Elsewhere than at refineries by origin:			
Pennsylvania grade	6,112	5,938	5,386
Other Appalachian (including Kentucky)	966	1,036	
Lima, Northeast Indiana, Michigan	1,294	1,085	732
Illinois-Southwest Indiana	10,256	10,124	10,615
North Louisiana and Arkansas	21,343	21,728	23,074
West Texas and southeast New Mexico	48,477	48,786	250,467
Oklahoma, Kansas, North Texas, etc.	199,039	198,860	
Gulf Coast: Grade A	8,041	7,756	
Grade B	11,328	11,480	20,473
Rocky Mountain	24,268	24,257	24,264
Total	331,124	331,050	335,010
Total east of California	378,264	377,822	383,343
CLASSIFICATION BY GRAVITY (approximately):			
East of California: Light	339,763	338,176	339,438
Heavy	38,501	39,646	43,905
California: Light	41,071	41,045	34,583
Heavy (including fuel)	104,550	105,276	105,687
PRODUCERS' STOCKS (not included above, approximately):			
East of California	6,250	6,400	6,550

*Includes importers' stocks. †Revised. ‡Not available.

PRODUCTION OF CRUDE PETROLEUM BY STATES WITH CLASSIFICATION BY GRAVITY
(Thousands of barrels of 42 U. S. gallons)

	July, 1930 Total	July, 1930 Daily av.	June, 1930 Total	June, 1930 Daily av.	Jan.-July, 1930	Jan.-July, 1929
Arkansas	1,682	54	1,673	56	11,782	15,415
California:						
Long Beach	3,104	100	2,792	93	21,510	38,206
Santa Fe Springs	3,478	112	3,391	113	29,401	40,974
Rest of State	12,220	394	11,838	395	86,294	89,602
Total California	18,802	606	18,021	601	137,205	168,782
Colorado	137	4	131	4	962	1,442
Illinois	535	17	506	17	3,586	3,641
Indiana:						
Southwestern	88	3	85	3	578	536
Northeastern	5	....	5	....	32	39
Total Indiana	93	3	90	3	610	575
Kansas	3,571	115	4,064	135	24,817	24,143
Kentucky	671	22	607	20	4,456	4,130
Louisiana:						
Gulf Coast	753	24	675	23	4,339	4,117
Rest of State	1,243	40	1,217	40	8,444	7,341
Total Louisiana	1,996	64	1,892	63	12,783	11,458
Michigan	279	9	282	9	2,357	1,924
Montana	299	10	265	9	1,778	1,921
New Mexico	1,331	43	733	25	3,967	601
New York	276	9	327	11	2,385	1,911
Ohio:						
Central and Eastern	459	15	454	15	3,156	3,048
Northwestern	121	4	120	4	808	872
Total Ohio	580	19	574	19	3,964	3,920
Oklahoma:						
Osage County	.....	.....	1,058	35	.....	9,006
Oklahoma City	2,829	91	3,148	105	19,783	1,327
Seminole	5,979	193	7,232	241	52,002	86,436
Rest of State	.....	.....	7,944	265	.....	53,017
Total Oklahoma	17,942	579	19,382	646	134,543	149,786
Pennsylvania	947	31	1,109	37	8,172	6,520
Tennessee	3	.....	1	.....	9	13
Texas:						
Gulf Coast	5,457	176	5,221	174	36,772	26,304
West Texas	9,154	295	9,009	300	67,550	80,970
Rest of State	11,127	359	10,754	359	70,518	61,854
Total Texas	25,738	830	24,984	833	174,850	169,128
West Virginia	446	14	451	15	3,209	3,226
Wyoming:						
Salt Creek	884	29	873	29	6,264	6,500
Rest of State	531	17	548	18	4,172	4,406
Total Wyoming	1,415	46	1,421	47	10,436	10,906
Total United States	76,743	2,475	76,513	2,550	541,871	579,442

NUMBER OF WELLS COMPLETED—TOTAL ALL FIELDS*

	July, 1930	June, 1930	Jan.-July, 1930	Jan.-July, 1929
Oil	1,051	1,197	7,751	8,442
Gas	233	276	1,506	1,518
Dry	562	602	3,954	4,439
Total	1,846	2,075	13,211	14,399

*From The Oil and Gas Journal and California office of American Petroleum Institute.

RECORD OF WELLS FOR VARIOUS IMPORTANT FLUSH FIELDS, JULY, 1930*

	Completions: Oil	Completions: Gas	Completions: Dry	Total initial production (bbls.)	Average initial production (bbls.)	Drilling July 31
Oklahoma	42	3	0	360,200	8,600	341
Seminole, St. Louis	50	4	9	87,000	1,700	104
West Texas	45	0	14	57,000	1,300	235
Long Beach	13	0	0	6,500	500	88
Santa Fe Springs	6	0	0	3,800	600	5

*From The Oil and Gas Journal and California office of American Petroleum Institute.

(Continued on Next Page)

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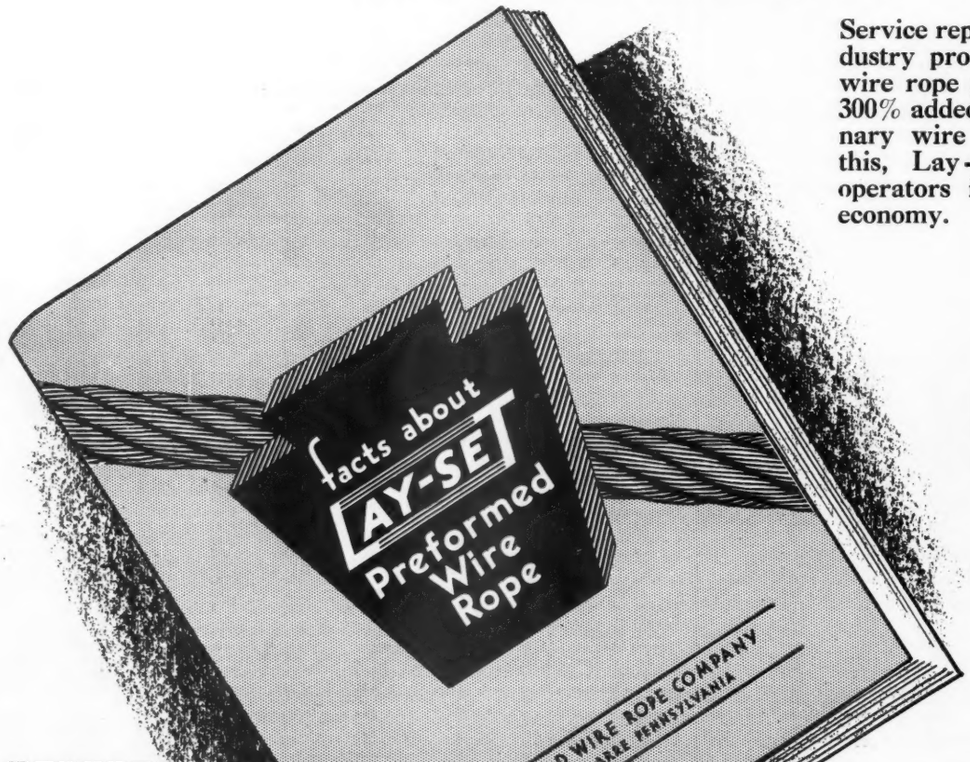

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City ..... *State* .....

OGJ 9-11-30

HAZARD WIRE ROPE COMPANY
WILKES-BARRE PENNSYLVANIA

511 Petroleum Bldg., Fort Worth

New York Pittsburgh Chicago Denver
Los Angeles San Francisco Birmingham
Philadelphia Tacoma

SHIPMENTS FROM CALIFORNIA TO EASTERN PORTS IN UNITED STATES*
(Thousands of barrels of 42 U. S. gallons)

	July, 1930	June, 1930	Jan.-July, 1930	Jan.-July, 1929
Crude oil	.....	.....	.....	1,101
Refined products	2,770	2,765	14,821	14,423
Gasoline	2,234	2,549	12,046	12,650
Kerosene	.....	81	180	72
Gas oil	524	65	2,245	1,524
Diesel oil	.....	64	208	70
Fuel oil	3	4	23	.....
Lubricants	8	1	107	79
Asphalt	1	1	12	18

*Compiled by E. T. Knudsen of the San Francisco office of the Bureau of Mines.

GASOLINE PRODUCTION BY THE VARIOUS METHODS—JULY, 1930
(Thousands of barrels of 42 U. S. gallons)

	Straightrun Total	Straightrun %	Cracked Total	Cracked %	Natural gasoline Total	Natural gasoline %	Grand total
East Coast	2,534	51	2,299	46	147	3	4,980
Appalachian	757	63	420	34	54	4	1,231
Ind., Ill., Ky., etc.	2,646	48	2,621	48	231	4	5,498
Okla., Kans., Mo.	3,112	56	1,976	36	463	8	5,551
Texas	4,279	48	3,572	40	1,055	12	8,906
Louisiana and Arkansas	920	41	1,030	45	320	14	2,270
Rocky Mountain	495	41	580	48	130	11	1,205
California	4,661	58	1,588	20	*1,775	22	8,024
Total	19,404	52	14,086	37	4,175	11	37,665
Texas Gulf Coast	2,678	42	2,826	45	793	13	6,297
Louisiana Gulf Coast	648	41	720	46	210	13	1,578

*Includes 105,000 bbls. run through pipe lines.

STOCKS HELD BY REFINING COMPANIES, JULY 31, 1930
(Thousands of barrels of 42 U. S. gallons)

	Gasoline	Kerosene	Gas oil and fuel oil: Gas oil and distillate fuels	Gas oil and fuel oil: Residual fuel oils	Total
East Coast	6,977	1,925	4,054	5,151	9,205
Appalachian	1,651	327	692	472	1,164
Ind., Ill., Ky., etc.	7,156	741	1,769	2,682	4,451
Okla., Kans., Mo.	4,328	756	2,042	3,126	5,168
Texas	7,174	1,559	2,314	7,840	10,154
Louisiana and Arkansas	1,717	882	617	1,328	1,945
Rocky Mountain	2,472	278	145	1,148	1,193
California	14,590	1,851	5,747	(*)	5,747
Total	46,065	8,319	17,380	21,747	39,027
Texas Gulf Coast	4,928	1,403	1,916	4,655	6,571
Louisiana Gulf Coast	1,369	837	467	611	1,078

	Wax (thousands of pounds): Lubricants	Wax: Crude scale	Wax: Refined	Wax: Total	Coke (tons)
East Coast	3,256	64,419	25,743	90,162	39,900
Appalachian	1,333	23,380	4,090	27,470	7,600
Ind., Ill., Ky., etc.	916	16,964	2,977	19,941	132,300
Okla., Kans., Mo.	692	4,439	3,009	7,448	86,000
Texas	2,238	994	11,096	12,090	395,700
Louisiana and Arkansas	131	73,661	2,754	76,415	34,300
Rocky Mountain	167	19,806	1,667	21,473	122,300
California	1,220	.....	.....	.....	123,800
Total	9,953	203,663	51,336	254,999	941,900
Texas Gulf Coast	2,141	976	11,096	12,072	369,500
Louisiana Gulf Coast	124	73,661	2,754	76,415	34,200

	Asphalt (tons)	Other finished products: Road oil	Other finished products: Miscellaneous	Other finished products: Total	Unfinished oils: Natural gasoline	Unfinished oils: Other	Unfinished oils: Total
East Coast	118,900	48	37	85	104	8,990	9,094
Appalachian	4,500	...	84	84	9	1,585	1,594
Ind., Ill., Ky., etc.	63,400	125	173	298	44	5,377	5,421
Okla., Kans., Mo.	4,300	16	20	36	17	3,012	3,029
Texas	12,300	17	18	35	280	15,607	15,887
Louisiana and Arkansas	43,400	1	5	6	15	3,386	3,401
Rocky Mountain	4,800	57	15	72	1	1,709	1,710
California	59,100	120	115	235	1,776	†8,348	10,124
Total	310,700	384	467	851	2,246	48,014	50,260
Texas Gulf Coast	12,200	17	6	23	268	13,767	14,035
Louisiana Gulf Coast	36,100	...	5	5	1	2,626	2,627

*Included with heavy crude. †Includes 2,758,000 bbls. tops.

PRODUCTION AND DISTRIBUTION OF NATURAL GASOLINE
(Thousands of barrels of 42 U. S. gallons)

	July, 1930: Total	July, 1930: Daily av.	June, 1930*: Total	June, 1930*: Daily av.	Jan.-July, '30: Total	Jan.-July, '30: Daily av.
Production	4,231	137	4,269	142	30,683	145
Decrease in all stocks	225	7	125	4	....	....
Total	4,456	144	4,394	146	30,683	145
Blended at refineries	4,070	132	3,768	125	25,414	120
Run through pipe lines in California	105	3	111	4	1,247	6
Blended at plants*	22	1	23	1	167	1
Sold direct to jobbers	150	5	200	6	1,450	7
Increase in all stocks	....	....	....	....	698	3
Balance	109	3	292	10	1,707	8
Total	4,456	144	4,394	146	30,683	145

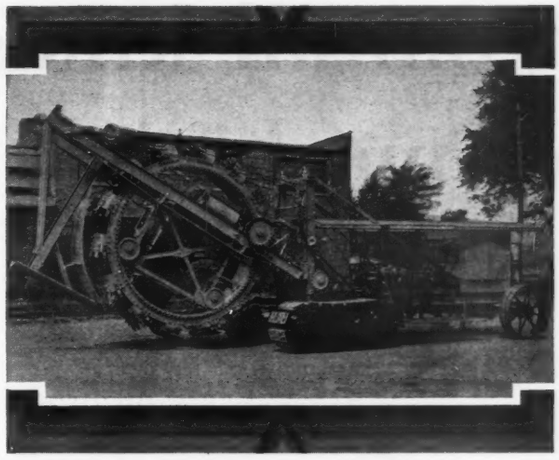
*East of California.

INDICATED DOMESTIC DEMAND FOR CRUDE PETROLEUM EAST OF CALIFORNIA
(Thousands of barrels of 42 U. S. gallons)

Domestic petroleum by fields of origin:	July, 1930: Total	July, 1930: Daily av.	June, 1930: Total	June, 1930: Daily av.	Jan.-July, 1930	Jan.-July, 1929
Appalachian:						
Pennsylvania grade	1,887	61	1,902	63	13,851	18,978
Other (including Kentucky)	923	30	929	31	5,852	
Lima, Northeast Indiana, Michigan	178	6	436	15	2,590	3,265
Illinois-Southwest Indiana	500	16	623	21	4,417	4,929
Mid-Continent:						
North Louisiana and Arkansas	3,195	103	2,231	74	20,734	26,085
West Texas, Southeast New Mexico	10,424	336	10,562	352	75,709	306,062
Other (Oklahoma, Kansas, North Texas, etc.)	32,029	1,033	33,468	1,116	227,743	
Gulf Coast:						
Grade A	2,563	82	3,079	103	20,034	28,220
Grade B	3,623	117	3,836	128	22,006	
Rocky Mountain	1,959	63	2,228	74	14,000	15,676
California	25	1	10	.....	44	.....
Total demand	57,306	1,848	59,304	1,977	406,980	403,275
Exports	1,396	45	1,758	59	8,886	9,918
Domestic demand	55,910	1,803	57,546	1,918	398,094	393,297
Foreign petroleum	6,070	196	6,052	202	37,820	50,011
Total domestic demand east of California	61,980	1,999	63,598	2,120	435,914	443,308

(Continued on Next Page)

See Buckeye Model 12 at the INTERNATIONAL PETROLEUM EXPOSITION, Tulsa, October 4 to 11



BUCKEYE MODEL 48
Heavy-Duty Pipe Line Ditcher

Cutting Widths: 22" and 24"–26" and 30"–37" and 40"
Cutting Depths: 6½' and 7½'

A leader in the complete line of *wheel-type* Buckeyes—"*the* ditchers that meet *all* oil and gas field requirements"—is the new, big, husky Model 48.

It is designed and built specifically for cutting the largest pipe line ditches successfully. Its ruggedness is supplemented with remarkable ease of control, favorite operating features and, like *every* Buckeye, with ample capacity to deliver plenty of finished ditch at decidedly low cost.

Taking soil and weather conditions as they come, Buckeyes have set the pace in pipe line construction for over 30 years. That they continue to do so, making them the preferred standards of leading pipe line engineers and contractors, is proven by three indisputable facts: 1—more Buckeyes are employed throughout the world's oil and gas fields than all other makes combined; 2—probably 95% of all major American cross-country pipe lines are laid in Buckeye-cut ditches; and 3—nearly every large pipe line contractor uses them exclusively.

Write for our interesting new catalog, "BUCKEYE —*The Pipe Liner*". It contains comprehensive specifications, describes and illustrates mechanical details, and lists surprising performance records. A full range of sizes offers a Buckeye for every requirement.

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Lubricating Oils

The world's quality oils for machine lubrication

SUPPLY AND DEMAND OF ALL OILS

(Including wax, coke and asphalt in thousands of barrels of 42 U. S. gallons)

	July, 1930	June 1930	July, 1929	Jan.-July, 1930	Jan.-July, 1929
NEW SUPPLY:					
Domestic production:					
Crude petroleum	76,743	76,513	91,327	541,871	579,442
Daily average	2,475	2,550	2,946	2,556	2,733
Natural gasoline	4,231	4,269	4,417	30,683	29,317
Benzol	224	235	264	1,697	1,790
Total production	81,198	81,017	96,008	574,251	610,549
Daily average	2,619	2,701	3,097	2,709	2,880
Imports:					
Crude petroleum	5,877	5,767	6,122	37,007	49,974
Refined products	4,040	4,027	3,176	25,627	14,249
Total new supply, all oils	91,115	90,811	105,306	636,885	674,772
Daily average	2,939	3,027	3,397	3,004	3,183
Increase in stocks, all oils	*4,291	*3,384	6,157	4,181	52,693
DEMAND:					
Total demand	95,406	94,195	99,149	632,704	622,079
Daily average	3,078	3,140	3,198	2,984	2,934
Exports:					
Crude petroleum	1,973	2,508	3,117	14,067	14,612
Refined products	10,945	14,257	12,358	81,593	78,047
Domestic demand	82,488	77,430	83,674	537,044	529,420
Daily average	2,661	2,581	2,699	2,533	2,497
Excess of daily average domestic production over domestic demand	†42	120	398	176	383
STOCKS (end of month):					
Crude petroleum:					
East of California‡	378,264	377,822	383,343	378,264	383,343
California§	145,621	146,321	140,270	145,621	140,270
Total crude	523,885	524,143	523,613	523,885	523,613
Natural gasoline at plants	741	928	1,156	741	1,156
Refined products	161,999	165,845	142,387	161,999	142,387
Grand total stocks, all oils	686,625	690,916	667,156	686,625	667,156
Days' supply	223	220	209	230	227
Bunker oil (included above in domestic demand	4,316	4,041	4,593	29,613	30,400

*Decrease. †Deficiency. ‡Excludes producers' stocks. §Includes residual fuel oil and producers' stocks.

COMPARATIVE ANALYSES

(Thousands of barrels of 42 U. S. gallons)

	July, 1930 Total	July, 1930 Daily av.	June, 1930 Total	June, 1930 Daily av.	Jan.-July, 1930	Jan.-July, 1929
CRUDE PETROLEUM:						
Runs to stills: Domestic	73,239	2,363	75,494	2,517	520,320	520,075
Foreign	5,405	174	5,253	175	35,481	46,687
Total	78,644	2,537	80,747	2,692	556,301	566,762
Imports	5,877	190	5,767	192	37,007	49,974
Exports	1,973	64	2,508	84	14,067	14,612
GASOLINE:						
Production*	38,061	1,228	37,537	1,251	261,378	246,973
Imports	1,741	56	1,670	56	9,899	4,449
Exports	5,598	181	7,126	238	39,763	35,036
Stocks†	46,077	.....	50,225	.....	46,077	37,906
Domestic demand	38,352	1,237	35,902	1,197	228,569	211,572
KEROSENE:						
Production	3,929	127	4,026	134	30,346	32,320
Imports	5	.....	61	2	125	120
Exports	1,034	33	1,796	60	10,194	11,606
Stocks	8,319	.....	8,352	.....	8,319	8,797
Domestic demand	2,933	95	2,323	77	20,997	21,038
GAS OIL AND DISTILLATE FUELS:						
Production	6,726	217	6,953	232	46,286	.....
Stocks	17,380	.....	17,149	.....	17,380	.....
RESIDUAL FUEL STOCKS:						
Production	24,297	784	24,139	805	178,535	.....
Stocks‡	21,747	.....	21,153	.....	21,747	.....
GAS OIL AND FUEL OIL:						
Production	31,023	1,001	31,092	1,036	224,821	260,046
Imports	2,286	74	2,287	76	15,383	9,574
Exports	3,095	100	3,950	132	22,919	21,992
Stocks	39,027	.....	38,302	.....	39,027	40,075
LUBRICANTS:						
Production	3,018	97	2,920	97	21,043	20,159
Imports	2	.....	2	.....	15	24
Exports	922	30	986	33	6,270	6,769
Stocks	9,953	.....	9,742	.....	9,953	7,524
Domestic demand	1,887	61	1,772	59	13,104	14,230
WAX (thousands of pounds):						
Production	45,640	1,472	43,680	1,456	353,920	375,928
Imports	1,394	45	1,522	51	17,373	21,781
Exports	20,391	658	23,015	767	156,040	166,308
Stocks	254,999	.....	249,748	.....	254,999	191,298
Domestic demand	21,392	690	20,963	699	151,663	150,447
COKE (short tons):						
Production	161,200	5,200	163,000	5,433	1,090,900	1,978,300
Stocks	941,900	.....	890,700	.....	941,900	563,900
ASPHALT (short tons):						
Production	333,500	10,758	336,900	11,230	1,862,400	1,934,700
Stocks	310,700	.....	312,000	.....	310,700	243,300
ROAD OIL:						
Production	809	26	735	25	3,189	
Stocks	384	.....	540	.....	384	5,984
MISCELLANEOUS:						
Production	901	29	911	30	4,095	733
Stocks	467	.....	480	.....	467	

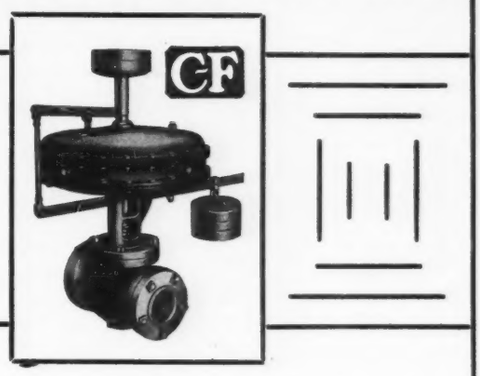
*Includes benzol production and natural gasoline used elsewhere than at refineries east of California. †Includes motor fuel blends held at natural gasoline plants. ‡East of California.

PRODUCTION OF CRUDE PETROLEUM BY FIELDS

(Thousands of barrels of 42 U. S. gallons)

FIELD:	July, 1930 Total	July, 1930 Daily av.	June, 1930 Total	June, 1930 Daily av.	Jan.-July, 1930	Jan.-July, 1929
Appalachian:						
Pennsylvania grade	1,917	62	2,139	71	15,522	13,363
Other (including Kentucky)	886	29	810	27	5,867	5,485
Lima, Northeast Indiana, Michigan	405	13	407	13	3,196	2,835
Illinois-Southwest Indiana	623	20	591	20	4,164	4,177
Mid-Continent:						
North Louisiana and Arkansas	2,925	94	2,890	96	20,226	22,756
West Texas, Southeast New Mexico	10,427	336	9,689	323	71,180	81,330
Other (Oklahoma, Kansas, North Texas, etc.)	32,640	1,053	34,200	1,140	229,878	235,783
Gulf Coast:						
Grade A	2,870	92	2,636	88	19,253	12,891
Grade B	3,340	108	3,260	109	21,858	17,530
Rocky Mountain	1,908	62	1,870	62	13,522	14,510
California	18,802	606	18,021	601	137,205	168,782
Total	76,743	2,475	76,513	2,550	541,871	579,442
CLASSIFICATION BY GRAVITY (approx.):						
Light crude	67,783	2,186	67,950	2,265	479,081	522,344
Heavy crude	8,960	289	8,563	285	62,790	57,098

Unusually Sensitive Control



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Two diaphragms of equal area move in opposite directions but transmit their power in the same direction, thus giving a vast increase in sensitiveness and power over that of a single diaphragm governor.

Due to the simplicity of its construction, it is easily and quickly installed and requires but little attention afterward.

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HOW are you cleaning oil drums? With expensive solvents . . . with dangerous caustic solutions?

Instead, do this job the safe, thorough Oakite way, and you will effect definite savings in time, money, and effort. The energetic action of the Oakite material cleans drums thoroughly inside and out, leaving absolutely nothing to contaminate the new oil.

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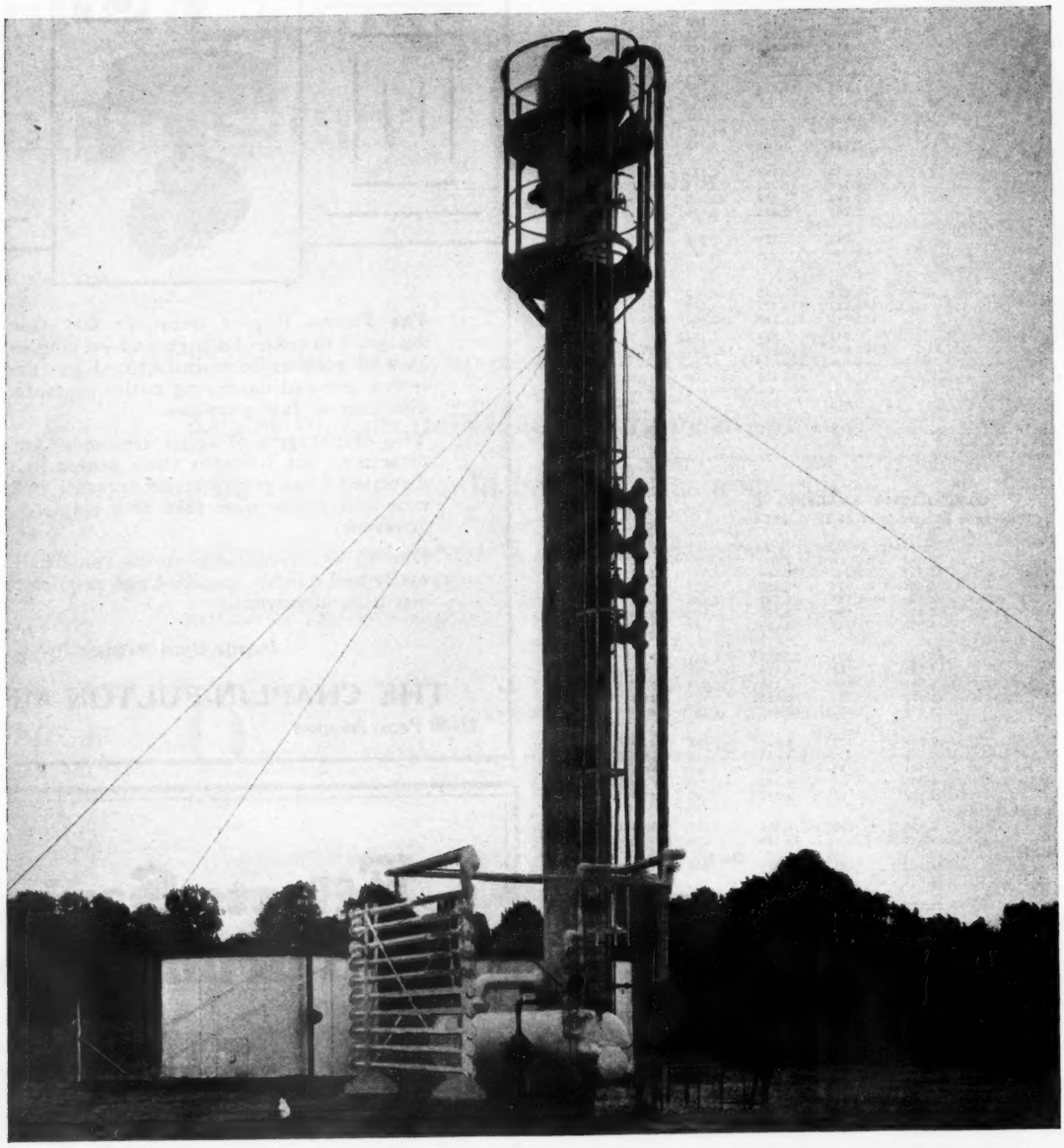
Industrial Cleaning Materials and Methods



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Boiler & Machinery Co.
TULSA OKLAHOMA

Oklahoma City, Oklahoma
443 Commerce Exch. Bldg.

NATURAL GASOLINE PLANTS—TANKS—REFINING EQUIPMENT

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 50)

Southern Crude Oil Purchasing Co.'s No. 1 Holbien-Wormser, 990 ft. from E line, 1,000 ft. from S line of Blk. 39, E. P. de Maguellas Sur. ..... T. D. 2,496 ft.; drlg. lime.

BEE COUNTY

William F. Morgan and Independent Oil & Gas Co.'s No. 1 Quincy, C Blk. 9 of 11,000-ac. Quincy Subd. of Bee County ..... T. D. 4,546 ft.; cored dry sand.
O'Neal & Catlett's No. 1 Pat Pugh ..... Location.
Simms Oil Co.'s No. 1 Halzmark, 830 ft. SE line, 2,952 ft. SW line of J. A. York Sur. ..... T. D. 3,547 ft.; showing of oil and gas.
S. R. C.'s No. 1 Theis, 2,700 ft. from N line, 300 ft. from W line of 782-ac. tract, Burns Sur. ..... T. D. 3,050 ft.; drlg.
Hurlbut et al's No. 1 Mrs. D. Chestnut ..... Rigging up.
Walter Rawlins' No. 1 P. L. Campbell, C B.&B. Sur. .... Derrick.
E. S. Price's No. 3 Weiss, 900 ft. due NE of No. 1 Weiss .. Location.
E. S. Price's No. 2 Weiss, 900 ft. due SW of No. 1 Weiss, B.&B. Sur. ..... Rigging up.
Cosden Oil Co.'s No. 1 Stoltzfus, 2,310 ft. to S and E lines of Sec. 14, Ragley Subd. of C. Miller ranch, Uranga Sur. ..... Rigging up.
Humble and Hurlbut and others' No. 1 J. C. Wood, 150 ft. from NW line, 1,144 ft. from SW line of P. T. Irrigation Co. ..... T. D. 2,750 ft.; shut down.

BEXAR COUNTY

Moore-Jauer's No. 1 Holly R. Ellison ..... T. D. 2,170 ft.; standing.
K. M. S. Pet. Co.'s No. 1 E. Salicky, 132 ft. from E line, 10 ft. S line of tract, Blk. 15, Mission Gardens ..... Location.
J. M. Russell's No. 1 F. L. Price, 1,590 ft. to N line, 660 ft. W line of tract in Angel Navarro Sur. ..... T. D. 206 ft.; standing.
J. M. Russell's No. 1 A. O. Miles, 1,600 ft. N line, 600 ft. W line 450-ac. tract, Angel Navarro Sur., 10 miles S from San Antonio ..... T. D. 735 ft.; moving in.
Henry Yelvington et al's No. 1 Beck, 365 ft. from W line, 310 ft. from S line 100-ac. tract, SW cor. of P. W. Hays Sur., 7 miles E from San Antonio ..... T. D. 1,470 ft.; shut down.
Snyder, Reeves et al's No. 2 Glasscock, 12 miles NE of San Antonio ..... T. D. 200 ft.; drlg.
August Magel's No. 1 Alvin Beck, 520 ft. from W line, 1,300 ft. from S line of Sur. No. 36 ..... Location.
C. S. Bowman's No. 1 Riddler, 1,000 ft. from S and W lines of 700-ac. tract, Block 4,311, Sur. No. 5 ..... Completed for 20 bbls.
Penn Oil Co.'s No. 1 Cooksey, 1,150 ft. to E line, 150 ft. to N line of survey, J. Riall Sur. ..... Moving in machinery.
Weibacher et al's No. 1 Ernst, 6,400 ft. S line, 900 ft. W line of J. Christopher Sur. ..... Location.
Carl Bros. et al's No. 1 Gembler, 160 ft. N line, 170 ft. E line Gembler tract, C. Tejeda Sur. ..... T. D. 500 ft.; drlg.

CALDWELL COUNTY

W. E. Allaun's No. 1 Cosey, SW cor. of tract ..... Location.
W. E. Allaun's No. 2 McKean, 300 ft. W of No. 1 ..... Location.
Matthews et al's No. 1 Osteen, 150 ft. E of M.K.T. tracks, 150 ft. N of S line of lease, N. Kelley Sur. .... T. D. 700 ft.; drlg.
J. T. Callahan's No. 2 W. H. Callahan ..... T. D. 1,990 ft.; top Taylor.
Batts et al's No. 1 E. P. Roefur ..... Rigging up.

CALHOUN COUNTY

The Texas Company's No. 1 Thomas in the J. D. Tilly Sur. ..... T. D. 4,050 ft.; drlg.

COMAL COUNTY

Caldwell & Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-ac. tract in the H.E.&W.T. No. 5,894 Sur. ..... T. D. 170 ft.; drlg.
New Braunfels Oil & Gas Co.'s No. 1 Adolph Seidemann, 269 ft. to NE line, 470 ft. to NW line of farm in the A. M. Esneuricas 11-League Sur., 1 mile SE from New Braunfels ..... T. D. 1,506 ft.; drlg. through Edwards.

DEWITT COUNTY

H. T. Roe's No. 1 Leinhardt ..... T. D. 2,170 ft.; shut down.

DUVAL COUNTY

Vacuum Oil Co.'s No. 1 Duval County Ranch Co., 3,143 ft. N line, 1,368 ft. S line, Sur. 220 ..... Drlg. water well.
Sal Oil & Gas Co.'s (Southern Oil Co.) No. 2 Welder-Wood, 1,980 ft. E line, 2,490 ft. N line, Sur. 215 .... T. D. 2,500 ft.; standing.
Sloan et al's No. 1 Luby, SW cor. of Sur. 593 ..... Location.

EDWARDS COUNTY

Phillips Pet. Corp.'s No. 2 A. G. Holman, 320 ft. from N and E lines of SE of tract, C.C.S.D.&N.G.R.G. Sur. No. 25 ..... T. D. 5,225 ft.; drlg.
James Dalgish's No. 3 Peterson, 850 ft. N line, 1,100 ft. W line of Sec. 82, Blk. E in the H.E.&W.T. Sur. .. Location.
James Dalgish-Morrow's No. 1 Peterson, NW cor. Sec. 82, Blk. E, H.E.&W.T.R.R., NE cor. of county in the H.E.&W.T.R.R. Sur. ..... T. D. 2,721 ft.; drlg.

FRIO COUNTY

Simms Oil Co.'s No. 1 ..... Location.
A. H. Wray's No. 1 Burns estate, 700 ft. N, 330 ft. E of C Sec. 123, Antone Hupzor ..... T. D. 1,038 ft.; drlg. shale.

GOLIAD COUNTY

Union Prod. Co.'s No. 12 George Ray, 2,350 ft. SW of NE line, 330 ft. NW of SE line, George A. Ray 400 ac. in the Wm. Southerland Sur. ..... T. D. 5,134 ft.; drlg.
A. G. Riemenschneider's No. 1 A. T. Fromme, 275 ft. from N line, 912 ft. W line of 300-ac. tract, P. Dexeter Sur. ..... T. D. 2,430 ft.; standing.

GONZALES COUNTY

Mardon Oil Co.'s No. 1 Borrer, 150 ft. N and W in the James Stewart Sur., 5 miles NW from Waelder .... T. D. 1,850 ft.; shut down.
Mardon Oil Co.'s No. 1 Robinson ..... T. D. 3,284 ft.; waiting for orders.
Linden Pet. Corp.'s No. 1 Hensley, 650 ft. N line, 1,110 ft. W line of J. W. Hensley 100 ac. in the James Smith ..... T. D. 4,450 ft.; drlg.
Lake Oil Co.'s No. 1 A. V. Campbell ..... Rigging up rotary tools.
United North & South Dev. Co.'s No. 2 Preston, 1,050 ft. NE, 450 ft. NW of upper S or SW cor. of Oethkin one-third league, 900 ft. SE of Preston No. 1. .... Location.
A. J. Keiffer et al's No. 1 B. B. Dix, 550 ft. W of E line, 2,775 ft. N of S line (Guadalupe River) in the Ira Nash Sur., 4 miles SE from Darst Creek ..... T. D. 2,815 ft.; hole cleaned; resumed drlg.

GUADALUPE COUNTY

Guy Lewis' No. 1 Arno Link ..... T. D. 847 ft.; rigging up.
J. S. Suttle's No. 2 A. Baenzinger, 40 ft. E line, 150 ft. S line of tract in the A. O. Mansola Sur., 5½ miles S from Seguin ..... T. D. 1,046 ft.; shut down.
Grayburg Oil Co.'s No. 2 Wells, 5,730 ft. E line, 2,490 ft. S line of NE cor. of Wells tract in the James D. Baume Sur., 6 miles SW from Darst Creek ..... T. D. 2,700 ft.; drlg. shale.
Brown Hinds et al's No. 1 George Altzger, 1,300 ft. from SE line, 1,100 ft. from SW line of 120-ac. tract in A. Mansola Sur. ..... T. D. 1,975 ft.; shut down in Del Rio.
Ray Oil Co.'s No. 1 R. Felsing, 300 ft. NW line, 450 ft. NE line 120-ac. tract in the M. Baker Sur. ..... T. D. 900 ft.; drlg. Del Rio.
Miller & Calhoun's No. 1 Lindenberger, 750 ft. from E line, 650 ft. from S line of 250-ac. tract ..... T. D. 942 ft.; reaming at 850 ft.
J. O. Dore's No. 1 Appling, 150 ft. to S and W lines of tract, H. Cottle Sur. ..... T. D. 2,460 ft.; dry and abandoned.
Cranfill & Reynolds' No. 1 Meyer, 150 ft. S and E lines 100-ac. tract, J. Canter Sur. ..... Location.

HAYS COUNTY

Hailey & Whittington's No. 1 Heidenrich ..... T. D. 735 ft.; shut down.

JACKSON COUNTY

The Texas Company's No. 1 Mitchell, 1,750 ft. E, 880 ft. N of SW cor. Ewing Sur. ..... T. D. 6,044 ft.; drlg.

JIM HOGG COUNTY

Cole Petroleum Co.'s No. 1 Allen, 150 ft. from W line, 336 ft. from N line, Blk. 7, Sur. No. 23 ..... Location.
Wm. H. Barnhart's No. 1 McCampbell, 450 ft. to W line, 150 ft. to N line, Lot 33, Barnhart Subd., Los Viboritas grant ..... Derrick.
E. E. Watts' No. 1 Gomez, 4,200 ft. to N line, 1,400 ft. to E line of Sur. 125 ..... T. D. 360 ft.; showing oil and gas.

JIM WELLS COUNTY

J. Walsh et al's No. 1 W. D. Wade, 1,035 ft. NE line, 300 ft. NW line of N cor., Lot 1, Blk. C, W. H. Bode Subd. ..... T. D. 210 ft.; set 10-in. surface csg.; waiting on cement.

KARNES COUNTY

Clayton & Pierce's No. 1 Barnett in the Alex Hunter Sur., 6 miles N of Karnes City ..... T. D. 2,916 ft.; waiting on title.
J. F. Morrissey et al's No. 1 Ragsdale, 660 ft. SW of C of NE line of 170-ac. farm in the McCoull Sur. .... T. D. 1,380 ft.; resumed drlg. (corrected depth).
Dr. Hewitt's No. 1 W. E. Porter, 650 ft. from N line, 700 ft. from W line of 416-ac. tract in the Victor Blanco Sur., 8 miles SE from Runge ..... T. D. 2,700 ft.; shut down.

KENDALL COUNTY

Borgett et al's No. 1 Haag, W. Avery Sur. ..... T. D. 940 ft.; drlg.
A. S. Mowinkle's No. 1 Kaston, 150 ft. from N line, 150 ft. from E line of tract, Sur. No. 724, 9 miles due W of Kendalia ..... T. D. 900 ft.; drlg.
Sitten et al's No. 1 Garvin, C of NE of D. L. Richardson Sur. in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... T. D. 710 ft.; drlg.
Dickinson et al's No. 1 Edmondson, 150 ft. from S line, 350 ft. from W line of tract in the J. O. Blair No. 72 Sur., 1 mile NW from Kendalia ..... T. D. 40 ft.; spudded in and shut down.
Dixon Oil Co.'s No. 1 Ottmer Behr, W of H.T.&B.R.R. Sur., 3½ miles SE from Sisterdale ..... T. D. 1,790 ft.; drlg.
P. B. Sterling's No. 1 R. J. McCrocklin, 1,350 ft. from N line, 250 ft. from W line of the B. G. Owens Sur., 4 miles W from Kendalia ..... T. D. 845 ft.; shut down.
R. M. Perkins' No. 1 J. Lawhon, Sec. 10, 2,475 ft. E line, 1,488 ft. S line ..... T. D. 550 ft.; drlg.; have hauled out 800 ft. of 8-in. csg.
Permian Basin Oil Co.'s No. 1 Boles, S.A.&M.G. Ry. Sur. No. 542½ ..... Moving in machinery.

KERR COUNTY

Evans et al's No. 1 Love Ranch, 100 ft. from S line Sur. 1,597, 1,000 ft. E of W line of J. Martinez No. 1,594 Sur. ..... T. D. 1,500 ft.; drlg.

KLEBERG COUNTY

Bowen & Sarles' No. 1 Robert, H. Simmons in the A. Houston Sur. No. 611, Sec. 7, King Subd., 150 ft. out of NW cor. of SW ..... T. D. 1,580 ft.; shut down.; W.O.C.

KINNEY COUNTY

Magnolia Pet. Co.'s No. 1 Whitehead-Wardlaw, 2,640 ft. W line and S line of Meliton Valdez grant ..... T. D. 3,118 ft.; cleaning out.
Mardon Oil Co.'s No. 2 Jim Clamp ..... T. D. 2,714 ft. in hard sand; coring.
A. Blume et al's No. 2 Herbst, 1,731 ft. W and S lines of Sur. in the Poindexter-Burns Sur. ..... T. D. 275 ft.; shut down.

KIMBLE COUNTY

Lindley Bros.' No. 1 Anderson, Sec. 178, Mubenger Sur. .. T. D. 990 ft.; shut down.
Dixie Oil Co.'s No. 1 Bodel, 900 ft. W of N line of Sec. 440, in Section 80, in the J. S. Patterson Sur. ..... Location.
C. L. Bryant et al's No. 1 Lambert, 7,700 ft. N and W lines of F. Lotta Sur. ..... T. D. 685 ft.; shut down.

LIVE OAK COUNTY

Catlett & O'Neil's No. 1 Pat Pugh, 620 ft. S line, 150 ft. E line of Pugh tract, Abstract 189, in the E Gomez Sur. No. 253, 6 miles N from Dinero ..... Location abandoned.
Jacob, Buzzini & Pickett, Inc.'s No. 1 C. E. Kay, in the Bridgett Fadden Sur., 3 miles E from George West .. Location.
O. Stalley et al's No. 1 Nichols, 2,000 ft. from W line, 500 ft. from S line in the Ayers Sur. ..... Location.
Illinois Exploration Synd.'s No. 1 Reeves-Brown, 1,300 ft. S of Sellers tract, 1,800 ft. E of Ry. ..... Derrick.
Penn Oil Co.'s No. 1 Lyne, 900 ft. to W line, 330 ft. from S line of Sec. 69 on Devonian block ..... T. D. 1,500 ft.; drlg.

LEE COUNTY

Burt et al's (M. D. Rickett) No. 1 R. C. Sanders ..... T. D. 2,841 ft.; drlg. shale.
A. H. Wheeler and associates' No. 1 fee, 14 miles NE from McDade, Blk. 47, Donohoe Sur. ..... T. D. 1,270 ft.; drlg. shale.
J. P. Perry and others' No. 1 W. H. Thomas ..... T. D. 875 ft.; shut down.

McMULLEN COUNTY

Mogul Pet. Co.'s No. 1 Martin, 150 ft. NW line, 150 ft. to SW line of E. Melon No. 212 Sur. ..... T. D. 241 ft.; drlg.
Sheree, Brodie and Emick's No. 1 Shiver, Henry Brewer Sur. ..... Location.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 6 Chittim, 1,445 ft. from S, 320 ft. from W of Sec. 116, Blk. 7, I.&G.N. Sur. ..... T. D. 3,475 ft.; standing.
Rycade Oil Corp.'s No. 5 Chittim, 600 ft. W of No. 3 Chittim, 500 ft. E line, 225 ft. from S line of SE Sec. 115, Blk. 7, in the I.&G.N. Sur. ..... T. D. 4,685 ft.; standing.
Rycade Oil Corp.'s No. 5 Sullivan, in C of Sec. 82, Blk. 7, in the I.&G.N. Sur. ..... T. D. 7,092 ft.; fishing.

MEDINA COUNTY

Pat Armstrong's No. 1 C. W. Butts, in George C. Hanson Sur. ..... T. D. 1,918 ft.; dry and abandoned.
B. F. Newhaus et al's No. 1 Fusselman, 200 ft. E and S lines of tract (320-ac.) in the M. Castro Sur. ..... T. D. 1,715 ft.; drlg. in Georgetown.
Pan American Dev. Co.'s No. 1 Antonio Hart, in Harrison Sur. No. 799, 15 miles S from Hondo ..... T. D. 2,234 ft.; abd., dry.
National Oil Co.'s No. 1 Howard, 1,760 ft. E of W line, 1,864 ft. N of S line of survey in the John George Sur. No. 9, 10 miles S of Dunlay ..... T. D. 1,645 ft.; standing.
Caldwell et al's No. 1 L. W. Burrell ..... T. D. 2,167 ft.; standing.
Donaldson Oil & Dev. Co.'s No. 2 Hillenmeyer, James Hillenmeyer No. 25 Sur., 500 ft. to E line of survey, 150 feet to S line of N half of survey ..... T. D. 200 ft.; shut down.
Pat Armstrong's No. 1 Crawford, 1,389 ft. N line, 2,550 ft. E line of survey, 478.6 miles W of Devine ..... T. D. 1,970 ft.; drlg.
Lyuko Co.'s No. 1 Medina Valley Irrigation, 2,800 ft. to S line, 2,250 ft. to E line of E. Reisacher Sur. No. 509. T. D. 500 ft.; drlg.
United North & South Dev. Co.'s No. 1, Little, S from D'Hanis and near S line of county ..... T. D. 580 ft.; moving in heavy rig.

MILAM COUNTY

Rheubotham & Tate's No. 1 Johnson, 325 ft. from N line, 250 ft. from W line of 40-ac. tract, D. Robinson Sur. ..... Derrick.

NUECES COUNTY

Independent Oil & Gas Co.'s No. 1 Baldwin, 330 ft. each way out of NE of the J. C. Russell Subd., Blk. 11, 3 miles W from Corpus Christi ..... T. D. 4,250 ft.; drlg.
Houston Oil Co.'s No. 1 Morgan, 105 ft. N of C of tract .. Laying water line.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW Sec. 175 ..... Spudded.

SAN PATRICIO COUNTY

Magnolia Pet. Co.'s No. 1 Freeman, 660 ft. S and W lines of NW half of 80-ac. tract, Sec. 57 in the E. J. McGloin Sur. ..... T. D. 5,526 ft.; rigged up to deepen.
J. L. Kennedy's No. 1 McRae, 1,170 ft. NW of the C of the SE line of 500-ac. tract ..... Building derrick.

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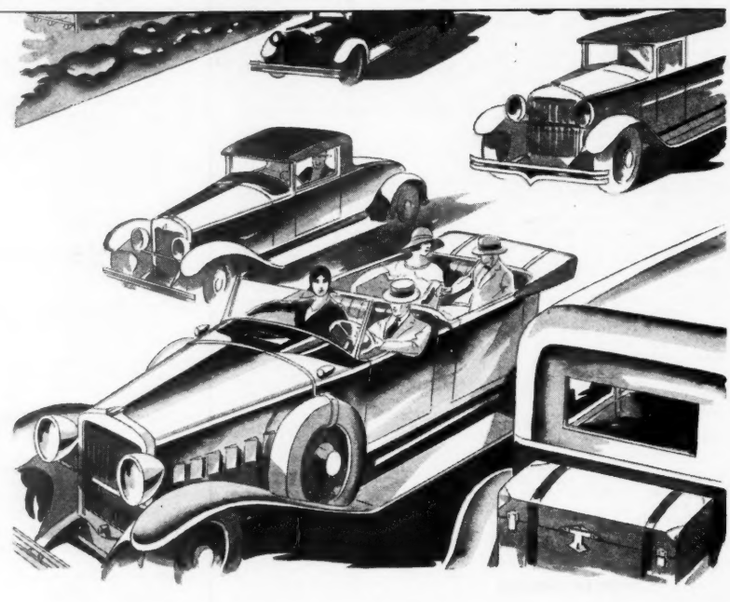

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George B. Pickett's No. 1 Baldwin, 900 varas due E of Denton, 1,200 ft. S of the SE cor. of O'Neil's Sur., Abstract 211 ..... T. D. 4,012 ft.; moving in heavy rig to go to 6,000 ft.

Saxet Oil Co.'s No. 1 Carroll, 800 ft. N line, 130 ft. to W line, Lot 32-A, Sec. 32 of the fourth subd., Taft farms ..... Moving in tools.

Union Prod. Co.'s No. 4 Welder, 3,000 ft. N line, 4,500 ft. E line of tract in the E. Portillo Sur. ..... T. D. 3,537 ft.; drlg.

G. B. Peterman et al's No. 1 Crow, 150 ft. from S line, 170 ft. from W line of Sec. 24 of the Fulton-Coleman Pasture Lands, J. H. Paul Subd. ..... T. D. 2,342 ft.; drlg.

G. B. Peterman et al's No. 1 Foster, 150 ft. from E line, 1,420 ft. from N line of Blk. 5 of the Welder-Coleman-Fulton Subd., 3½ miles W from Sinton ..... Location.

LaFeria Oil & Gas Co.'s No. 1 C. C. Smith, in J. C. White Sur., 690 ft. to N line, 350 ft. to E line ..... T. D. 4,067 ft.; shut down.

STARR COUNTY

Kush Expltn. Co.'s No. 1 Kelsey-Bass, 150 ft. to W line, 750 ft. to N line, Por. 75, Blk. 9 ..... T. D. 425 ft.; drlg.

J. L. Smith's No. 1 Welch, Pedernal Sur. ..... T. D. 925 ft.; show gas in sand.

Virginia Oil Co.'s No. 1 Kelsey-Bass, 150 ft. to S line, 1,850 ft. to W line, Blk. 6, Por. 75, Courargo ..... Rigging up.

TRAVIS COUNTY

Fox Oil Co.'s No. 1 W. Fuchs ..... T. D. 1,012 ft.; shut down.

Fort Bend Oil Co.'s No. 1 M. Engleman, 450 ft. N line, 150 ft. W line of 108-ac. tract, J. H. Denson Sur. ..... Location.

UVALDE COUNTY

E. Anglin et al's No. 1 U.P.P., 1,550 ft. from NW line, 7,450 ft. to NE line of Manual Leal Sur., 10 miles SE from Uvalde ..... T. D. 1,194 ft.; drlg. in lime.

Waldrop & Welch's No. 1 E. R. Edmonds, 1,750 ft. NW, 7,200 ft. W of Sec. 71, in the A. Gomez Sur., 8 miles S of Uvalde ..... T. D. 1,193 ft.; moving in heavier rig.

Phantom Oil Co.'s No. 1 Claudt, Sec. 611 ..... T. D. 2,450 ft.; fishing.

VICTORIA COUNTY

The Texas Co.'s No. 1 A. M. McFadden, 1,550 ft. N and E lines of H. Bonny Sur. ..... T. D. 3,900 ft.; drlg.

WEBB COUNTY

J. L. Elliott's No. 1 Esperanza Land & Stock Co., 950 ft. from N line, 2,231 ft. E line, Sur. 815 ..... T. D. 1,450 ft. (corrected); standing.

O. W. Killam's No. 1 Slator, 800 ft. to NW line, 300 ft. to SW line, Blk. 70, Slator pasture, Borrego grant ..... T. D. 1,610 ft.; completing as water well.

WILLIAMSON COUNTY

Texas Oil & Gas Development Co.'s No. 1 Gervert & Allison, 9 miles NE from Taylor ..... T. D. 40 ft.; shut down.

ZAPATA COUNTY

T. H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 8 Subd., Share 7, Partition No. 6, T. Uribe Partition of Jose V. Borrego Sur. ..... Rigging up.

B. F. Nixon's No. 1 A. Gutierrez, 170 ft. S line, 332 ft. E line, Lot 5, Blk. 8, Partition 10, Borrego grant ..... T. D. 50 ft.; standing.

Penny Prod. Co.'s No. 1 Juan V. Cuellar, Jr., et al, 175 ft. NE line, 175 ft. SE line Poppas Subd., Porcion 33 and 34, Blk. 1, Sur. 2 ..... T. D. 400 ft.; drlg.

National Oil Co.'s No. 1-A Adams, 150 ft. N of No. 1, Blk. 4, Sec. 11, Adams Subd., Borrego grant ..... T. D. 700 ft.; setting csg.

National Oil Co. of Delaware's No. 1 Luther, 617 ft. NW line, 96 ft. NE line, Blk. 97, Da Pron Subd., Porcion 6 ..... T. D. 380 ft.; drlg.

National Oil Co. of Delaware's No. 2 Luther, 64 ft. NE line, 272 ft. SE line, Blk. 13, Sur. No. 7, Share 8, Borrego grant ..... Spudded.

Mackinzie and Tallmadge's No. 1 Trevino, 400 ft. SE line, 200 ft. NE line, Blk. 6, Sur. No. 4, Porcion 2 and 3 ..... T. D. 30 ft.; standing.

Penny Prod. Co.'s No. 1 Trevino, 300 ft. SE line, 200 ft. NE line Marts & Beavers Subd., of Porcion 2 and 3, Blk. 6, Sur. 4 ..... T. D. 782 ft.; water.

F. M. Blair & Son's No. 1 Gutierrez, 150 ft. from NW line, 660 ft. from SW line, Blk. 2, Blair Subd., Comitas grant ..... T. D. 700 ft.; drlg.

Lincoln Oil & Gas Co.'s No. 1 Gutierrez, Blk. 23, Subd., La Huerta grant ..... Spudded.

ZAVALA COUNTY

Krebs & Davis' No. 1 Weatherby, E center of NW of Sec. 44, Blk. A, Adams, Beatty & Mouton Sur., 4 miles E from Loma Vista ..... T. D. 1,782 ft.; drlg.

Ed Anglin's No. 5 Pryor ..... T. D. 1,034 ft.; drlg. (cor. depth).

Texas Gas Utilities Co.'s No. 1 Ike T. Pryor, Jr. ..... T. D. 1,211 ft.; tested gas, estimated 20,000,000 ft.

Ed Anglin's No. 6 La Pryor ..... Location.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 49)

Rio Bravo Oil Co.'s No. 6 Fee, west ..... Set 100 ft. screen 4,409 ft.; comp. flowing 470 bbls. pipe line oil.

Rio Bravo Oil Co.'s No. 7 Fee, west ..... Drlg. shale 1,512 ft.

Sun Oil Co.'s No. 11 Bender, west ..... No report.

Sun Oil Co.'s No. 13 Bender, west ..... No report.

Sun Oil Co.'s No. 14 Bender, west ..... Rig.

Sun Oil Co.'s No. 15 Bender, west ..... Location.

Sun Oil Co.'s No. 16 Bender, west ..... Location.

Sun Oil Co.'s No. 17 Bender, west ..... Location.

Sun Oil Co.'s No. 18 Bender, west ..... Location.

Sun Oil Co.'s No. 49 River, north ..... Total depth 4,486 ft.; strengthening hole.

Trapshooter Riley's No. 1 Long John Jones ..... No report.

The Texas Company's No. 2 Atlantic & Gulf, east ..... Drlg. hard sand 4,005 ft.

The Texas Company's No. 2 Fee ..... Drlg. sticky shale and lime 2,928 ft.

The Texas Company's No. 25 House, northeast ..... Drlg. gumbo 1,110 ft.

The Texas Company's No. 43 Stevenson, east ..... Location.

West Production Co.'s No. 3 Foster, north ..... Cemented casing 4,200 ft.

E. M. Wilson's No. 5 Pickins ..... Derrick.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Production Co.'s No. 1 Manchester Corp. ..... Testing oil sand 2,732 ft.

Moody Corp.'s No. 5 Nume ..... Comp. flowing 300 bbls. oil 3,720 ft.

Navarro Oil Co. and Texas Exploration Co.'s No. 20 Dooley ..... Location.

Rio Bravo Oil Co.'s No. 14-A Settegast ..... Fishing.

Rio Bravo Oil Co.'s No. 20-A Settegast ..... Drlg. shale and lime 4,355 ft.

Saxet Oil Co.'s No. 8 Herman estate ..... Drlg. gumbo 3,852 ft.

Elvin Tilton's No. 1 G. P. Co.-Jones fee ..... Location.

Warner-Quinlan's No. 1 Minchen ..... Drlg. sand and boulders 1,093 ft.

LIBERTY—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 13 O'Brien ..... No report.

The Texas Company's No. 7 Green, northwest ..... Abandoned in heaving shale 4,486 ft.

BIG CREEK—FORT BEND COUNTY

Gulf Production Co.'s No. 60 Davis ..... Drlg. gumbo 1,337 ft.; set 10-in. casing 1,331 ft.

Navarro Oil Co.'s No. 5 Davis ..... Gumbo 1,489 ft.; set 10-in. csg. 913 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 5 Lost Lake ..... Drlg. sand 4,878 ft.

NASH—BRAZORIA COUNTY

Ryeade Oil Corp.'s No. 27 Wisdom ..... No report.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 90-A Cotton ..... Comp. flowing 65 bbls. 549 ft.

Rio Bravo Oil Co.'s No. 94-A Cotton ..... Rig.

GOOSE CREEK—HARRIS COUNTY

Humble Oil & Ref. Co.'s No. 78 Simms-Smith ..... Drlg. hard sandy shale 4,676 ft.

SPINDLETOP—JEFFERSON COUNTY

Unity Oil Co.'s No. 101 McFaddin ..... Packed sand 530 ft.

Yount Lee Oil Co.'s No. 17 McFaddin (workover) ..... Fishing.

Yount Lee Oil Co.'s No. 138 McFaddin ..... Abandoned in heaving shale 6,347 ft.

Yount Lee Oil Co.'s No. 139 McFaddin ..... To test oil sand 5,577 ft.

Yount Lee Oil Co.'s No. 141 McFaddin ..... Drlg. hard sand and lime 2,896 ft.

NORTH DAYTON—LIBERTY COUNTY

Victor Oil Co.'s (V. H. Borsodi) No. 2 Gulf ..... Sand and shale showing oil 5,062 ft.

Saxet Oil Co.'s No. 3 Wilhite ..... Drlg. hard sand 4,389 ft.

Harrison Oil Co.'s No. 1 Gulf fee ..... Sand and shale showing oil 4,553 ft.

Harrison Oil Co.'s No. 1 Jones ..... Location.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 10 Smith ..... Drlg. sand and shale 4,792 ft.

Marrs McLean's No. 18 Cade ..... Total depth 4,177 ft.; sidetracking; sand and lime 2,993 ft.

Marrs McLean's No. 19 Cade ..... Rig.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 25 Moore ..... Drlg. gumbo 1,001 ft.

Gulf Production Co.'s No. 26 Moore ..... Drlg. gumbo 1,286 ft.

HULL—LIBERTY COUNTY

J. F. Bashara's No. 1 Bashara ..... Comp. flowing 400 bbls. oil 4,050 ft.

The Texas Company's No. 3 Barrow ..... Moving in.

PORT NECHES—ORANGE COUNTY

Gulf Production Co.'s No. 1 W. H. Starks ..... Drlg. shale and lime 5,778 ft.

The Texas Company's No. 2 Starks ..... Drlg. sand and shale 4,895 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 5 Hunt ..... Rig.

Sun Oil Co.'s No. 4 Janner ..... Total depth 2,677 ft.; reaming.

SOUR LAKE—HARDIN COUNTY

The Texas Company's No. 307 fee ..... Rig.

BATSON—HARDIN COUNTY

Ada Belle Oil Co.'s No. 141 Gulf ..... Pumping 200 bbls., 1 per cent oil 1,180 ft.

Paraffine Oil Co.'s No. 2 Hooks & Dils ..... Abandoned in rock 1,450 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Oil Co.'s No. 5 Davis ..... Set 44 ft. screen 2,344 ft.; comp. flowing 360 bbl. pipe line oil.

Cranfill-Reynolds' No. 6 Esperson ..... Cutting out liner.

Cranfill-Reynolds Oil Co.'s No. 16 Esperson ..... Drlg. sandy shale showing oil 3,325 ft.

Cranfill-Reynolds Oil Co.'s No. 17 Esperson ..... Waiting on orders.

Cranfill-Reynolds Oil Co.'s No. 4 Moores Bluff ..... Waiting on cement to set 2,304 ft.

Yount Lee Oil Co.'s No. 3 Moores Bluff ..... Making dry gas 7,592 ft.

HANKAMER—LIBERTY COUNTY

Gulf Production Co.'s No. 1 Ezzell ..... Sand and shale showing oil 3,982 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Anderson et al's No. 1 Smith & Brooks ..... Comp. pumping 10 bbls. 3,225 ft.

ORANGE—ORANGE COUNTY

Sun Oil Co.'s No. 7 Gunstream ..... Set 10 ft. screen 3,870 ft.; flowing 500 bbls. daily.

BOLING—WHARTON COUNTY

C. S. Thomas' No. 1 Volney ..... Shut down 235 ft.

C. S. Thomas' No. 1 Taylor ..... Drlg. hard sand 1,385 ft.

REFUGIO—REFUGIO COUNTY

J. B. Ganhan's No. 1 J. W. Kay, Blk. 8 ..... Location.

Houston Oil Co.'s No. 1 Rooke ..... Drlg. gumbo and lime 3,621 ft.

Houston Oil Co.'s No. 1 City, Blk. 5 ..... Location.

Houston Oil Co.'s No. 1 City, Blk. 59 ..... Drlg. sand and shale 6,379 ft.

Houston Oil Co.'s No. 1 O'Connor ..... Drlg. lime rock 5,146 ft.

Houston Oil Co.'s No. 1 West ..... Oil sand 6,381-97 ft.; set 6⅝-in. casing.

Houston Oil Co.'s No. 1 Rose Lambert ..... Total depth 5,922 ft.; plugged to 5,900 ft.

Houston Oil Co.'s No. 2 Rose Lambert ..... Set 5 joints screen 5,890 ft.; testing.

Houston Oil Co.'s No. 7 Fannie Heard (workover) ..... Total depth 3,718 ft.; plugged to 3,680 ft.

Houston Oil Co.'s No. 1 Johnson, Block 63 ..... Sand showing oil 5,636 ft.; cmtd. csg.

Independent Oil & Gas Co.'s No. 1 Rose Lambert ..... Drlg. sticky shale 5,012 ft.

Independent Oil & Gas Co.'s No. 6 Jerry Reilly (workover) ..... Drlg. sand showing oil 6,714 ft.

Independent Oil & Gas Co.'s No. 2 Shelly ..... Location.

Edwin M. Jones' No. 8-A J. ..... Rig.

Luling Oil & Gas Co.'s No. 1 Shaw ..... Location.

Luling Oil & Gas Co.'s No. 1 Talman, Blk. 104 ..... Spudded.

Luling Oil & Gas Co.'s No. 1 J. W. Kay ..... Fishing 4,684 ft.

Luling Oil & Gas Co.'s No. 1 West ..... Drlg. 5,526 ft.

Mission Drilling Co.'s No. 1 Ben Shelton ..... Rig.

Mission Drilling Co.'s No. 1 Moss-Heard, Block 11 ..... Sand 5,431 ft.

Mission Drilling Co.'s No. 1 O'Brien (workover) ..... Standing 5,471 ft.

Mission Drilling Co.'s No. 1 Joe Shay, Block 6 ..... Pulling screen to deepen 5,469 ft.

Moody-Seagraves Prod. Co.'s No. 1 Linney ..... Location.

Moody-Seagraves Prod. Co.'s No. 1-A O'Brien ..... Derrick.

Moody-Seagraves Prod. Co.'s No. 2 O'Brien ..... Drlg. sticky shale 6,120 ft.

Moody-Seagraves Prod. Co.'s No. 3 O'Brien ..... Derrick.

Moody-Seagraves Prod. Co.'s No. 1-A St. John ..... Drlg. sand and lime 3,692 ft.

Moody-Seagraves Prod. Co.'s No. 1 Strauch, Block 65 ..... Location.

Pearson Properties, Inc.'s No. 1 Hornburg ..... Derrick.

Pearson Properties, Inc.'s No. 3 Ryals ..... No report.

Pittsburg Refugio Oil Co.'s No. 2 Terrell ..... Drlg. gumbo 2,921 ft.

Saxet Oil Co.'s No. 12 Clint Heard ..... Tested salt water 6,386 ft.

Saxet Oil Co.'s No. 1 L. H. Johnson, Blk. 11 ..... Location.

Saxet Oil Co.'s No. 1 Kay ..... Comp. flowing 700 bbls. 5,475-88 ft.

Saxet Oil Co.'s No. 3 Ryals ..... Oil sand 6,451-65 ft.

L. L. Smith's No. 1 Powers, Blk. 35 ..... Location.

Stroube & Stroube's No. 1 City, Lot 15, Block 4 ..... Comp. pumping 380 bbls. 3,690 ft.

C. A. Tucker's No. 1 Empson ..... Comp. flowing 600 bbls. fluid, 75 per cent water.

Union Producing Co.'s No. 10 Fannie Heard ..... Gumbo 467 ft.; cmtd. 10-in. csg.

Union Producing Co.'s No. 6 O'Brien ..... Derrick.

Union Producing Co.'s No. 5 Powers ..... Location.

Union Producing Co.'s No. 5 Mitchell ..... Rig.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Moss ..... Tested salt water 5,055 ft.; pulled screen; standing.

Union Sulphur Co.'s No. 1 Martha Moss ..... Drlg. gumbo 5,647 ft.

Vacuum Oil Co. and Gulf Ref. Co.'s No. 28 Miller ..... Drlg. sandy shale 4,484 ft.

Vacuum Oil Co. and Gulf Ref. Co.'s No. 29 Miller ..... Drlg. gumbo 2,429 ft.

Vacuum Oil Co.'s No. 30 Miller ..... Location.

Vacuum Oil Co.'s No. 31 Miller ..... Location.

Vacuum Oil Co.'s No. 6 Bayou State ..... Drlg. gumbo 3,157 ft.

Yount Lee Oil Co.'s No. 1 Miller ..... Set 7-in. csg. 6,891 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 6 Caldwell ..... No report.

Duhon Oil & Mineral Co.'s No. 1 Koonce ..... Shut down 140 ft.

Federal Petroleum Co.'s No. 1 Hebert ..... Shale 6,806 ft.

The Texas Company's No. 7 State ..... Drlg. shale and sand 4,012 ft.

Yount Lee Oil Co.'s No. 30 State ..... Drlg. sand, shale and boulders 2,380 ft.

Yount Lee Oil Co.'s No. 31 State ..... Oil sand 3,809 ft.

Yount Lee Oil Co.'s No. 2 Portia ..... Drlg. sticky shale 3,712 ft.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 9 Housierre Latrielle ..... Sandy shale 7,172 ft.

Yount Lee Oil Co.'s No. 7 Crowley ..... Drlg. water sand 4,057 ft.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 4 Gardner ..... Tested salt water 3,498 ft.; standing.

Lucky Ten Oil Co.'s No. 1 Lizzo ..... Rig up to deepen.

Vinton Petroleum Co.'s No. 9 Gray ..... Drlg. sandy shale 3,226 ft.
Wilson-Broach's No. 4 Wilson ..... Tested salt water 3,491 ft.; pulling screen.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 5 Atchafalaya (workover) ..... Pulling screen to deepen.
Rycade Oil Corp.'s No. 1 Woodyard Lake ..... Fishing 5,414 ft.
Rycade Oil Corp.'s No. 4 State ..... Derrick.

STARKS—CALCASIEU PARISH

Adams Oil Co.'s No. 1 Roderick ..... No report.
J. O. Davis' No. 1 Industrial ..... Drlg. 4,312 ft.
Gulf Refining Co.'s No. 25 Stark ..... Rig.
J. G. Sutton et al's No. 1 Industrial ..... Cemented casing 1,439 ft.

SWEET LAKE—CAMERON PARISH

Magnolia Petroleum Co.'s No. 1 Sweet Lake ..... Drlg. 6,304 ft.

EDGERLY—CALCASIEU PARISH

Rex Petroleum Co.'s No. 12 Hunter ..... No report.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

O'Hara et al's No. 1 Schrader ..... Drlg. shale 1,610 ft.

BRAZORIA COUNTY

The Texas Company's No. 1 Ewin, Harvey Little Sur..... Reaming 7,095 ft.
The Texas Company's No. 1 J. H. Murdock, Fresno ..... Drlg. gumbo 711 ft.
Mills Bennett Production Co.'s No. 1 Random, Allen..... Total depth 5,363 ft.; standing.
Mills Bennett Production Co.'s No. 1 Reese, Allen..... Abandoned in shale and lime 4,215 ft.
Mills Bennett Production Co.'s No. 1 Poole, Allen..... Drlg. sticky shale 2,994 ft.
Mills Bennett Production Co.'s No. 2 Allen ..... Drlg. sandy shale and lime 3,210 ft.
Faust et al's No. 5 Faust ..... Drlg. hard sandy lime 5,030 ft.
Freeport Sulphur Co.'s No. 2,001 Fee, Bryan Heights..... Drlg. hard lime 3,354 ft.
Layne et al's No. 7 Wisdom, Damond Mound ..... Bailed dry 360-64 ft.; drlg. rock 368 ft.
Rucks & Patterson's No. 1 Hunter, southwest of Hoskins.. Total depth 1,180 ft.; sidetracked to rock 968 ft.; shut down.
Rycade Oil Corp.'s No. 1 Seaburn, Stratton Ridge..... Lime and calcite 2,327 ft.; drill stem test 2,279-2,300 ft. salt water.
Shell Petroleum Corp.'s No. 4 Blakely-Danbury ..... Abandoned 1,852 ft.
Shell Petroleum Corp.'s No. 5 Blakely-Danbury ..... Derrick.
Shell Petroleum Corp.'s No. 1 Haury-Danbury ..... Location.
Steel & Strickland's No. 1 Lockridge ..... Spudded and shut down.
United Oil Syndicate's No. 1 Moores, Francis Moore Sur... Shut down 1,462 ft.

CALHOUN COUNTY

The Texas Company's No. 1 Thomas, J. P. Tilley Sur..... Fishing 5,063 ft.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Total depth 3,948 ft.; cemented casing.
Shell Petroleum Corp.'s No. 2 Herff, Moss Bluff ..... Rig.
Pure Oil Co.'s No. 1 J. H. K. Ranch, Oyster Bayou ..... Drlg. soft sand 4,988 ft.
The Texas Company's No. 1 Jackson, T.&N.O. Sur., Sec. 17 ..... Shut down for fuel 4,893 ft.

GRIMES COUNTY

Deering et al's No. 1 Munker, Darius Gregg Sur. ..... Drlg. gumbo 1,541 ft.
Deering & Noble's No. 1 Templeton, 6 miles south of Navasota ..... Drlg. sandy shale 2,930 ft.

HARDIN COUNTY

D. O. Speights' No. 1 Fee, near Batson ..... Preparing to resume drilling 2,656 ft.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Shut down 4,247 ft.
Gulf States Oil Co.'s No. 1 Angsperger ..... Drlg. sand and shale 1,121 ft.
Humble Oil & Ref. Co.'s No. 8 Warren, Hockley ..... Drlg. sand and shale 3,133 ft.
Humble Oil & Ref. Co.'s No. 3 Minnetex, Mykawa ..... Drlg. hard sand 4,688 ft.
Mission Drilling Co.'s No. 2 Cook, H. A. Read Sur. ..... Sand and shale 1,904 ft.; abandoned.

JACKSON COUNTY

Jackson County Oil Syndicate's No. 8 Drushell, Edna..... Drlg. shale and sand 3,717 ft.
Jackson County Oil Syndicate's No. 2 Lee ..... Drlg. 3,401 ft.

JEFFERSON COUNTY

Deep Test Oil Co.'s No. 1 McFaddin, Chaisson Sur..... No report.
Westbury Oil Co.'s No. 1 West, Choate Sur. ..... Drlg. gumbo 4,112 ft.

LIBERTY COUNTY

Gulf Production Co.'s No. 2 McFaddin, Moss Bluff ..... Drlg. water sand 4,020 ft.
Humble Oil & Ref. Co.'s No. 1 Breeding, Moss Bluff .... Derrick.
Humble Oil & Ref. Co.'s No. 1 Orlando Hylton, Moss Bluff ..... Drlg. gumbo 1,897 ft.
Humble Oil & Ref. Co.'s No. 1 Sergent, Moss Bluff ..... Rigging up.
Rycade Oil Corp.'s No. 1 Heiskell ..... Rig.
Shell Petroleum Corp.'s No. 2 Herff ..... Rig.
Tucker et al's No. 1 Bell, Devers ..... Derrick.

MATAGORDA COUNTY

H. C. Cockburn's No. 2 Hawkins, Shepherds Mott ..... Location.
Empire Gas & Fuel Co.'s No. 1 Boker, Citrus Grove .... Drlg. hard sand and lime 3,958 ft.

MONTGOMERY COUNTY

Price & Whitehead's No. 2 Guerges ..... Drlg. shale 2,956 ft.

REFUGIO COUNTY

Blanco Oil Co.'s No. 1 Dorman ..... Shut down 3,120 ft.

VICTORIA COUNTY

Houston Oil Co.'s No. 1 McFaddin, C. O. Edwards Sur.... Coring sand 3,010 ft.
The Texas Company's No. 1 McFaddin, H. Bonny Sur..... Cored sand 4,021-23 ft.
Lion Oil & Ref. Co.'s No. 2 McFaddin, M. Traviers Sur... Drlg. shale 4,967 ft.
Newton et al's No. 1 West ..... Shut down 1,550 ft.

WALKER COUNTY

Texas State Oil Co.'s No. 2 Folls, H.&T.C. Sur., Abstract 287 ..... Drlg. shale 3,206 ft.

WALLER COUNTY

W. P. Morris' No. 1 Chapman, Donoho Sur. ..... Shut down 3,234 ft.

WASHINGTON COUNTY

W. Birdwell's No. 1 Schram, James Walker Sur. ..... Abandoned in gumbo 3,015 ft.
Clifton et al's No. 1 Pruiss, E. Alcorn Sur. ..... Shut down 1,610 ft.

SOUTH LOUISIANA

ACADIA PARISH

Charles P. Siess' No. 1 Roller, Sec. 8-8s-1e ..... Total depth 5,238 ft.; abandoned.

CAMERON PARISH

Shell Petroleum Corp.'s No. 15 Watkins, Black Bayou.... Cemented casing 1,558 ft.
Shell Petroleum Corp.'s No. 1 State, Black Bayou ..... Drlg. hard gray sand 4,651 ft.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w ..... Drlg. rock 4,708 ft.
The Texas Company's No. 6 State, Calcasieu Lake ..... Rigging up.

IBERIA PARISH

Lake Oil Co.'s No. 1 Ben White, Sec. 54-12s-7e ..... No report.
Jefferson Oil Co.'s No. 9 Lake Peigneur, Jefferson Island. Location.
Jefferson Oil Co.'s No. 10 Lake Peigneur, Jefferson Island ..... Location.
The Texas Company's No. 5 Vermillion Bay ..... Rock 6,528 ft.; reset csg. after collapse.

IBERVILLE PARISH

Shell Petroleum Corp.'s No. 5 Wilbert, White Castle..... Drlg. hard packed sand 4,713 ft.
Standard Oil Co.'s No. 7 Wilbert ..... Derrick.
Standard Oil Co.'s No. 8 Wilbert ..... Drlg. 2,687 ft.
Standard Oil Co.'s No. 1 E. B. and S. P. Schwing, Bayou Blue ..... Drilling.
Standard Oil Co.'s No. 1 Baist Cooperage, Bayou Blue... Rig.
Standard Oil Co.'s No. 2 Case, Bayou Des Glaise ..... Location.

JEFFERSON PARISH

Humble Oil & Ref. Co.'s No. 1 Delaware, Sec. 2-16s-23e.. Drlg. shale 3,565 ft.

JEFFERSON DAVIS PARISH

Shell Petroleum Corp.'s No. 1 Heyd, Iowa ..... Location.
Vacuum Oil Co.'s No. 1-A DeVilbiss, Roanoke ..... Drlg. sand rock 1,556 ft.

LAFAYETTE PARISH

Pure Oil Co.'s No. 1 Marmetin, Carencro ..... Abandoned in soft lime and shale 6,742 ft.

PLAQUEMNIE PARISH

Humble Oil & Ref. Co.'s No. 2 Cockrell-Moran, Lake Grand Ecaille ..... Building derrick.
Humble Oil & Ref. Co.'s No. 3 Cockrell, Lake Grand Ecaille ..... Cap rock 1,525-44 ft.; drill stem stuck; sidetracking.
The Texas Company's No. 4 State, Garden Island ..... No report.

ST. MARTIN PARISH

The Texas Company's No. 2 Iberville Land ..... Drlg. 300 ft.
The Texas Company's No. 4 St. Martin, Hager ..... Derrick.

ST. MARY PARISH

The Texas Company's No. 1 South Coast, Sec. 41-14s-10e.. No report.

TERREBONNE PARISH

The Texas Company's No. 5 State, Bay St. Elaine ..... Location.
The Texas Company's No. 4 State, Caillou Island ..... Location.
The Texas Company's No. 5 State, Caillou Island ..... Driving piling.
The Texas Company's No. 3 State, Dog Lake ..... Drlg. 100 ft.
The Texas Company's No. 4 La. L. & E., Four Isle ..... Drlg. shale 3,526 ft.
The Texas Company's No. 2 La. L. & E., Bay Junop ..... Drlg. sandy shale 2,130 ft.
The Texas Company's No. 6 State, Lake Pelto ..... Moving in.
The Texas Company's No. 5 State, Lake Barre ..... Drlg. gumbo 2,360 ft.

SOUTHWEST TEXAS FIELDS

(Continued from Page 50)

from 9,000 bbls. daily to 15,500 bbls. daily. They claimed to have contracts for 15,500 bbls. They argued they had prorated for 60 days before ordered to and were running 14,500 bbls. before the proration order was made. They claimed Darst Creek is allowed to run to the capacity of its market outlet and that they have a market outlet for 20,000 bbls. and are asking for only 15,500 bbls. Chapman has two lines laid to Thrall, one a 3-inch and the other a 4-inch line. Although Chapman brought in the discovery well, he claimed he had sold no oil until recently and has a large amount in storage and has been out about $1,000,000 developing the field and outlets for it and now wishes to get his product on the market.

Contracts for the oil as given to the railroad commission are as follows:

Purchaser—	Bbls. daily
Sinclair	4,000
Southern Oil & Refining Co.	1,500
Standard Oil of Ohio	3,500
Oriental	1,000
Taylor Refining Co.	5,000
Thrall Refining Co.	2,500
North Star, Ltd., of Canada	.....
Total	17,500

*North Star, Ltd., of Canada, takes to the capacity of its tank cars.

Daily average production of the pools in the Southwest Texas area for the week ending September 6 follows:

SOUTHWEST TEXAS

Branyon	21
Bruner	16,340
Buchanan	170
Dale	274
Darst Creek	47,793
Kingsville	130
Larremore	30
Luling	9,920
Lytton Springs	775
Manford	300
McMullen	32
Medina	22
Mirando	11,351
Pettus	5,852
Saxet	75
Somerset	1,532
Yoast	380
Total Southwest Texas	94,997
Week ending August 30	104,165
Decrease	9,168

LAREDO DISTRICT COMPLETIONS

Schoolfield-O'Byrne Pool—Duval County

Magnolia Petroleum Co.'s No. 1 Hahl-Norton, 885 feet from west line, 600 feet from south line, Survey No. 61; total depth 2,414 feet, 75 bbls.

Cole Pool—Webb County

O. W. Killam's No. 19 Bruni, Block 1, Adams Subdivision, Mariano Arispe grant, Survey No. 8; total depth 2,322 feet, 35,000,000 feet of gas, 750 bbls.

Jennings-Muckleroy—Zapata County

Alamo Drilling & Leasing Co.'s (Claggett) No. 4 Trevino, 490 feet from east line, 150 feet from south line, Block 1, Survey No. 66; total depth 1,277 feet, 75 bbls. Allied Gas Co.'s No. 3-B Trevino, 150 feet from northwest line, 150 feet from east line, Block 15, Survey No. 65; total depth 1,268 feet, 50 bbls. Same company's No. 4-B Trevino, 150 feet from east line, 350 feet from northwest line, Block 15, Survey No. 65; total depth 1,278 feet, 60 bbls. Same company's No. 5-B Trevino, 260 feet from east line, 485 feet from northwest line, Block 15, Survey No. 65; total depth 1,266 feet, 60 bbls. Allied Gas Co.-Allen & Morris' No. 6 Gutierrez, 4,265 feet from southeast line, 1,650 feet from northeast line, Share 4, Fansler partition, Comitas grant; total depth 1,270 feet, 75 bbls. W. R. Shankle's No. 6 Trevino, 450 feet from northwest line, 150 feet from northeast line, Block 15, Survey No. 65; total depth 1,265 feet, 70 bbls. S.R.C. Oil Co.'s No. 8-A Trevino, 450 feet from west line, 150 feet from south line, Block 8, Survey No. 66; total depth 1,262 feet, 60 bbls.

Jennings-Cuellar Pool—Zapata County

O. W. Killam's No. 27-C Cuellar, 575 feet from north line, 880 feet from southwest line, Survey No. 278; total depth 1,581 feet, 100 bbls.

ABANDONED TESTS

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 49 Kohler, 1,155 feet from east line, 990 feet from south line, Survey No. 172; location abandoned.

Jennings-Muckleroy Pool—Zapata County

Mirando Lumber Co.'s No. 1 M. Garza, 150 feet from northwest line, 150 feet from southwest line, Block 62, Zorro Ranch Subdivision, Comitas grant; location abandoned.

NEW LOCATIONS

Schollfield-O'Byrne Pool—Duval County

Magnolia Petroleum Co.'s No. 1 Edge-Hahl, 150 feet from north line, 150 feet from west line, Survey No. 63; rigging up.

Henne-Winch-Farriss Pool—Jim Hogg County

South Texas Production Co.'s No. 1 Robert Hinnant, 660 feet from east line, 660 feet from south line, Hinnant Subdivision, Share 5, Las Animas grant; location.

Reiser Pool—Webb County

O. W. Killam's No. 1 Villegas, location.

Jennings-Muckleroy Pool—Zapata County

W. R. Shankle's No. 8 M. Trevino, 1,150 feet from northwest line, 828 feet from southwest line, Block 15, Survey No. 65; location. W. R. Shankle's No. 9 M. Trevino, 750 feet from northwest line, 828 feet from southwest line, Block 15, Survey No. 65; location.

Jennings-Cuellar Pool—Zapata County

O. W. Killam's No. 28-C Cuellar, 950 feet from north line, 672 feet from southwest line, Survey No. 278; spudded. O. W. Killam's No. 2 Hinnant, 150 feet from south line, 2,490 feet from east line, Survey No. 74; rigging up.

DRILLING ACTIVITY

Cole Pool—Duval County

W. E. Mulholland's (Miller I. Shaw) No. 2 S. Benavides, 218 feet from north line, 1,050 feet from west line, Survey No. 173; total depth 2,820 feet, drilling.

Kohler Pool—Duval County

Simms Oil Co.'s No. 9 Dinn, 660 feet from east line, 660 feet from south line of NW SE, Survey No. 143; rigged up, standing.

Schoolfield-O'Byrne Pool—Duval County

C. E. Long and others' (Shell) No. 1 Bishop Duval Land Co., 2,800 feet from north line, 160 feet from west line, Survey No. 59; total depth 450 feet, shut down.

Randado Pool—Jim Hogg County

Cole Petroleum Co.'s No. 1 Wood, 800 feet from west line, 547 feet from southwest line, Block 16, Survey No. 82; derrick.

Roma Pool—Starr County

The Texas Company's No. 5-A V. C. de Guerra, 675 feet from north line, 675 feet from east line, Share 305, Porcion 67, Jurisdiction of Mier; rigging up.

Schott Pool—Webb County

George S. Marshall's No. 2 Garcia, 1,170 feet from north line, 2,490 feet from east line, Survey No. 458; total depth 2,405 feet, testing.

Carolina-Texas Pool—Webb County

Magnolia Petroleum Co.'s No. 1 Jones-Wright, 330 feet from south line, 330 feet from west line, Survey 674; total depth 3,670 feet, drilling sand and lime. Washington-Texas Oil & Gas Co.'s No.

R. O. Barnsley, 325 feet from south line, 768 feet from east line, Block 16, Survey No. 268; total depth 2,300 feet, waiting on cement.

Albercas Pool—Webb County

South Texas Producing Co.'s No. 1 Yeager-Stroman, Morris 40-acre tract, Share 5, Las Animas grant; total depth 2,075 feet, coring.

Cole Field—Webb County

Trussell, Cezeaux & Partee's No. 1 Bruni, 150 feet from northeast line, 300 feet from southeast line, Block 35, Adams Subdivision, Survey No. 10; total depth 2,340 feet, testing.

Charco Redondo Pool—Zapata County

C. R. Moore and J. W. Moore's No. 1 Adela de Flores, 330 feet from northwest line, 330 feet from northeast line, E. M. Doty Subdivision, Block 99, Charco Redondo grant; total depth 320 feet, moving in heavy rig. C. R. Moore and J. W. Moore's No. 2 Adela de Flores, 150 feet from northeast line, 150 feet from southeast line, E. M. Doty Subdivision, Block 151, Charco Redondo grant; total depth 50 feet, standing. Mid-West Public Utilities Co.'s No. 1 Garcia, 450 feet from southwest line, 450 feet from southeast line of M. P. de Garza tract, Block 33, Pedernal grant; total depth 1,381 feet, standing.

Jennings-Muckleroy Pool—Zapata County

Alamo Drilling & Leasing Co.'s (Claggett) No. 5 Trevino, 150 feet from south line, 150 feet from east line, Block 1, Survey No. 66; spudded. Same company's (Claggett) No. 6 Trevino, 450 feet from south line, 150 feet from east line, Block 1, Survey No. 66; location. Allied Gas Co.'s No. 8-B Trevino, 520 feet from northwest line, 465 feet from east line, Block 20, Survey No. 65; total depth 50 feet, drilling. Allied Gas Co.-Allen & Morris' No. 7 Gutierrez, 4,263 feet from southeast line, 150 feet from northeast line, Share 4, Fansler partition, Comitas grant; rigging up. Same companies' No. 8 Gutierrez, 3,963 feet from southeast line, 150 feet from northeast line, Share 4, Fansler partition, Comitas grant; location. Same companies' No. 9 Gutierrez, 3,663 feet from southeast line, 150 feet from northeast line, Share 4, Fansler partition, Comitas grant; location. Edgington & Niles' No. 5-B Trevino, 150 feet from southeast line, 1,050 feet from southwest line, Block 4, Survey No. 65; location. Gatlen & Matthews' No. 1 Garza, 150 feet from south line, 150 feet from west line, Block 18, Survey No. 413; derrick. Keene & Jackson's No. 1 M. Garza, 150 feet from northwest line, 150 feet from southwest line, Block 59, Zorro Ranch Subdivision, Comitas grant; total depth 300 feet, drilling. K. D. Harrison's No. 1 Pedro de los Santos, 150 feet from southeast line, 150 feet from northeast line of Fansler 52-acre tract, Share 6, Comitas grant; spudded. Nordan & Morris-Grimm & Yakey's No. 1 S. Bustamente, 990 feet from northeast line, 150 feet from northwest line, Share 34, Fansler partition, Comitas grant; location. Nordan & Morris-Grimm & Yakey's No. 2 E. de los Santos, 750 feet from southeast line, 382 feet from southwest line, Share 7, Fansler partition, Comitas grant; total depth 1,335 feet, testing. Smith-Clark Co.'s (Skoglund & Maddox) No. 1 Montemayor, 150 feet from west line, 450 feet from north line, Block 5, Survey No. 63; total depth 1,780 feet, drilling lignite. W. R. Shankle's No. 3 Gutierrez, 900 feet from northeast line, 3,014 feet from northwest line, Share 4, Fansler partition, Comitas grant; total depth 1,200 feet, drilling. W. R. Shankle's No. 7 Trevino, 1,195 feet north of the south corner and 150 feet from east line, Block 15, Survey No. 65; total depth 1,100 feet, drilling. S.R.C. Oil Co.'s No. 1 F. Cuellar, 150 feet from northwest line, 150 feet from northeast line, Block 7, Survey No. 65; derrick. S.R.C. Oil Co.'s No. 12-B Trevino, location. S.R.C. Oil Co.'s No. 14-B Cuellar, 750 feet from west line, 150 feet from south line, Block 13, Survey No. 65; total depth 2,200 feet, drilling. Whicker, Arnold & Ahler's No. 3 Garza, 150 feet from southwest line, 450 feet from southeast line, Block 1, Zorro Ranch Subdivision, Comitas grant; rigging up. Winch & Henne's No. 2 J. Bustamente, 263 feet from southwest line, 150 feet from northwest line, Share 35, Fansler partition, Comitas grant; total depth 1,396 feet, drilling rock.

Jennings-Cuellar Pool—Zapata County

O. W. Killam's No. 1 R. Lopez, 600 feet from east line, 475 feet from south line, Block 6, Survey No. 71; total depth 2,295 feet, drilling sand. O. W. Killam's No. 1 Slator, Block 1, Slator pasture, Borrego grant; spudded. O. W. Killam's No. 26-B Cuellar, 1,885 feet from south line, 1,025 feet from southwest line, Survey No. 277; total depth 1,200 feet, drilling. O. W. Killam's No. 1 R. Hinnant, 1,838 feet from south line, 300 feet from west line, Survey No. 72; spudded.

COMPLETIONS

Pettus Area—Bee County

Batex Petroleum Co.'s No. 2 Burnett, 361 feet north line, 900 feet east line of the lease, South John Pace Survey; total depth 3,660 feet; waiting on pipe line. C. R. M. Drilling Co.'s No. 1, Block 34, center of Block 34, Pettus Townsite, total depth 3,909 feet; 750 bbls. Houston Oil Co.'s No. 1 Pettus, center of Block 23, Pettus Townsite; total depth 3,911 feet; gauged 85 bbls. first 7 hours. Same company's No. 2 Neumann, east offset to Cosden's No. 2 McKinney, total depth 3,699 feet; 200 bbls. Ed Price's No. 1 Weiss, 200 feet out of the northwest corner of B&B 640-acre tract; estimated 10,000,000 feet of gas. S. R. C. Oil Co.'s No. 1, Block 31, Pettus, center of Block 31, Pettus Townsite; total depth 3,874 feet; waiting on cement. Union Producing Co.'s No. 19 Ray, east offset to Block 37, Pettus Townsite; total depth 3,907 feet; 25,000,000 feet of gas and 25 bbls. oil. Same company's No. 20 Ray, east offset to Humble's No. 5 McKinney, 150 feet east of southeast corner of Pettus Townsite; total depth 3,918 feet; top sand 3,914 feet. Same company's No. 24 Ray, 812 feet south line, 1,625 feet west line of P. Miller Survey; total depth 2,870 feet; 15,000,000 feet of gas.

Lassiter Pool—Brooks County

Houston Oil Co.'s No. 2 Holbein-Wormser, 2,100 feet west line, 200 feet south line, Holbien-Wormser 962-acre tract, E. P. de Maguellas Survey; total depth 3,619 feet, test showed 300 bbls.

Bruner Field—Caldwell County

Humble Oil & Refining Co.'s No. 6 W. H. New, 450 feet south line, 1,650 feet west line, J. Hinds Survey; total depth 2,749 feet; 200 bbls.

Saxet Field—Nueces County

Houston Oil Co.'s No. 1 Ran Morgan, 105 feet north of the center of the tract, offset to Thompson's No. 2 Lawrence; total depth 1,670 feet; gas sand; waiting on casing. R. A. Thompson and others' No. 2 Lawrence-Harrell, 300 feet from north and east lines of Block 19; total depth 1,659 feet; estimated 20,000,000 feet of gas.

Chapman Pool—Williamson County

E. L. Chapman's No. 7 F. Fuchs; total depth 1,960 feet; 75 bbls., pumping.

ABANDONED TESTS

Pettus Area—Bee County

Dr. Hewitt and others' No. 1 Mauldin, 2,400 feet north line, 1,200 feet east line of 200-acre tract, J. Pointevant Survey; total depth 3,650 feet; abandoned, dry. Lange & Mimms' No. 1 Billingsley, 155 feet to south and west lines of Billingsley 10-acre tract out of 150-acre tract, J. Pointevant Survey; total depth 560 feet; abandoned, dry.

Pettus Area—Goliad County

Union Producing Co.'s No. 12 Ray, 2,350 feet southwest of northeast line, 300 feet northwest of southeast line, William Southerland Survey; total depth 5,514 feet; abandoned, dry.

Cartwright Field—Live Oak County

Houston Oil Co.'s No. 1 R. Boothe, 3,000 feet west line, 300 feet south line of 822-acre tract in M. B. Kilvin Survey; total depth 5,259 feet; abandoned, dry; skid derrick for new hole.

Chapman Pool—Williamson County

Westbrook and others' No. 6 T. P. Simmons; total depth 2,272 feet; abandoned, dry.

NEW LOCATIONS

Pettus Area—Bee County

Burton Drilling Co.'s No. 1 Kimball, south of the Grayburg district; derrick. Houston Oil Co.'s No. 1 J. J. Mathews, center of Block 32, Pettus Townsite; total depth 460 feet; waiting on casing. Hurlbut and others' No. 1 Mrs. Denver Chestnut, 150 feet southeast line, 9,606 feet southwest line, Chestnut 5,000-acre tract, Miguel de los Santos Survey, derrick.

Darst Creek Field—Guadalupe County

Gulf Production Co.'s No. 5 Thomas Dix, 450 feet from lease corner where Gulf, Magnolia and Louisiana's leases join; moving in.

Chapman Pool—Williamson County

R. A. Westbrook's No. 1 Simmons, 150 feet from south and east lines of 58-acre tract, S. Miller Survey; location. R. A. Westbrook's No. 2 Simmons, 300 feet northeast of No. 1, S. Miller Survey; location. R. A Westbrook's No. 3 Simmons, 300 feet northeast of No. 2, S. Miller Survey; location. R. A. Westbrook's No. 4 Simmons, 300 feet northeast of No. 3, S. Miller Survey; location.

DRILLING ACTIVITY

Dobrowolski Pool—Bexar County

Bolling & Michael's No. 1 J. P. Adams, 150 feet south line, 300 feet west line of lease in Miguel Gortaris Survey, total depth 662 feet; temporarily abandoned. Eckert & Son's No. 8 L. Sandemer, 625 feet south line, 1,155 feet west line, Survey No. 52; total depth 318 feet; drilling. Morgan Brothers' No. 3 Masterson, Miguel Gortaris Survey, total depth 550 feet; set casing. Penn-Tex Oil Co.'s No. 4 Sandemer, 300 feet south of No. 3; total depth 565 feet; drilling. W. R. Swearingen and others' No. 2 Halberdier, 300 feet southeast of No. 1, J. Perege Survey No. 57, total depth 460 feet; drilling.

Darst Creek Field—Guadalupe County

Gulf Production Co.'s No. 3 Malaer, north end of Darst Creek Field, 440 feet northeast line, 200 feet northwest line of 72-acre tract, J. B. Alexander Survey, total depth 2,173 feet; drilling in chalk. Same company's No. 3 Thomas Dix, 450 feet south of east corner, 150 feet from northeast line of lease, J. R. Robinson Survey; building derrick. Same company's No. 4 Thomas Dix, 750 feet east corner, 150 feet northeast line of lease, J. R. Robinson Survey; building derrick. same company's No. 6 Posey Baker, 150 feet each way out of the west corner of lease, J. R. Robinson Survey; location. Same company's No. 7 Posey Baker, 800 feet northeast of the west corner, 150 feet northwest line of lease, J. R. Robinson survey; location. Humble Oil & Refining Co.'s No. 2-A Dowdy, southeast part of field, offset to Empire Gas & Fuel Co.'s No. 5 Dowdy, northeast corner of "A" lease; location. Magnolia Petroleum Co.'s No. 1 Nora Huff, west offset to company's No. 4 L. V. Echols, J. Hodges Survey; location. Same company's No. 3 Annie Knodel, 150 feet northwest line, 600 feet southwest line of lease, J. W. Robinson Survey; location. Same company's No. 4 Richburg, 450 feet northeast line, 200 feet southeast line of lease; total depth 1,750 feet; drilling. Simms Oil Co.'s No. 4 Manford, total depth 1,920 feet; drilling. The Texas Company's No. 5-A Knoblock; location. Same company's No. 8-B C. Knoblock, 1,080 feet northeast line, 150 feet southeast line of 75-acre tract, J. R. Robinson Survey; location. Witherspoon Oil Co.'s No. 1 Baker, 300 feet north of Jarmon's No. 1 Baker; derrick down; restrained by injunction.

Chapman Pool—Williamson County

W. D. Anderson's No. 7 M. V. Lawrence; temporarily abandoned. Same owner's No. 8 M. V. Lawrence; location. Same owner's No. 6-A T. P. Simmons; location; Bartlett & Wilson's No. 1 R. E. Stewart; drilling. Bartlett & Wilson's No. 2 R. E. Stewart; total depth 790 feet; drilling. E. L. Chapman's No. 2 T. P. Simmons, 150 feet south and west lines of 17-acre tract, S. Miller Survey; location.Same owner's No. 3 T. P. Simmons, 300 feet northeast of No. 2, S. Miller Survey; location. Same owner's No. 4 T. P. Simmons, 300 feet southeast of No. 3, S. Miller Survey; location. Same owner's No. 5 T. P. Simmons, 300 feet northeast of No. 4; location. J. L. Collins & Co.'s No. 5 M. V. Lawrence, 150 feet west line, 515 feet south line of 27-acre tract, S. Miller Survey; total depth 1,462 feet; drilling. Same owner's No. 7 M. V. Lawrence, 150 feet east line, 215 feet south line of 27-acre tract, S. Miller Survey; temporarily abandoned.

E. R. Ertel's No. 1 H. Swanson; total depth 1,025 feet; shale; shut down. Elliott & Moore's No. 1 A. J. Carlson, total depth 40 feet; shut down. W. M. Keisker's No. 1 E. L. Chapman, derrick. A. J. Luke's No. 1 A. Simmons, 500 feet north line, 450 feet west line of 25-acre tract, H. Owen Survey; total depth 2,210 feet in serpentine. Manning & Anderson's No. 1 Cooper, total depth 1,228 feet; drilling Glenrose. Rheubotham's No. 1 S. H. Jarrell; total depth 40 feet; shut down. Rosenfield's No. 1 Pfluger; total depth 1,329 feet; drilling Georgetown. M. M. Rowan's No. 1 A. Jackson, total depth 1,900 feet; shut down. Sequoia Oil Co.'s No. 7 R. P. Simmons, 150 feet north line, 325 feet east line, 17-acre tract, S. Miller Survey; location. Same company's No. 4 T. P. Simmons, 300 feet west of No. 2, S. Miller Survey; location. Same company's No. 5 T. P. Simmons, 300 feet southeast of No. 3, S. Miller Survey; location. Same company's No. 6 T. P. Simmons, 300 feet west of No. 4, S. Miller Survey; location. G. Stratton's No. 5 J. C. Abbott, 450 feet east line, 150 feet south line of 32-acre tract, S. Miller Survey; drilling. Texas Oil & Gas Development Co.'s No. 1 Gernert & Allison, 18,000 feet north line, 7,000 feet west line, Pedro Zarza Survey; total depth 40 feet; spudded and shut down. Jess Tomberlin's No. 1 C. M. Partman; total depth 1,410 feet, shut down. Wilson and others' No. 1 A. B. Simmons; total depth 2,306 feet; shut down in chalk. Wilson and others' No. 1 C. Sitman; total depth 2,950 feet; shut down. R. S. Wilson's No. 1 J. A. Walker; total depth 140 feet; rack.

Pettus Area—Bee County

Batex Petroleum Co.'s No. 3 Burnett, one location west of their No. 2 location. Cosden Oil Co.'s No. 4 McKinney, 497 feet north of No. 2 on the same lease and 300 feet east line of the lease; total depth 3,693 feet; drilling plug. Grayburg Oil Co.'s No. 1 Kimball, center of 189-acre tract, Stephen Winship Survey; total depth 3,547 feet; top sand. Same company's No. 1-A Kimball, 1,000 feet north line, 2,000 feet west line of 189-acre tract, Stephen Winship Survey; total depth 3,750 feet; drilling. Glasscock Brothers' No. 1, Block 24, Pettus, center of Block 24, Pettus Townsite; total depth 3,909 feet; pulling tubing. Hicks & Young's No. 1 Billingsley, 155 feet from south and west lines of tract, B. G. Hadley Survey; total depth 360 feet; shut down. Houston Oil Co.'s No. 1, Block 21, Pettus, center of Block 21, Pettus Townsite; total depth 1,128 feet; set 10-inch casing. Humble Oil & Refinnig Co.'s No. 6 McKinney, 150 feet direct offset to Houston Oil Co.'s No. 1, Block 35, George Kerr Survey; total depth 3,887 feet; setting casing. Moody-Seagraves Producing Co.'s No. 2 McKinney, 1,200 feet due west of No. 1, C. Ballard Survey; location. Rio Bravo Oil Co.'s No. 1 S.A.&A.P.Ry., 58 feet north of south line, 120 feet west of west line of Block 3, Pettus Townsite; spudding in. Rio Bravo Oil Co.'s No. 3 S.A.&A.P. Ry., George Kerr Survey; location.

Southerland and others' No. 1 Billingsley, 155 feet from south line, 155 feet from west line of 40 acres off the north end of 150-acre tract, B. Q. Hadley Survey; derrick. Lange and Mimms' No. 1 Mauldin, 155 feet to the north and east lines of 10-acre tract out of the Mauldin 125-acre tract, J. Pointevant Survey; total depth 560 feet; shut down. Sun Oil Co.'s No. 1 Barnett, 371 feet to north line, 300 feet to east line of lease, south John Pace Survey; total depth 3,627 feet; setting casing. The Texas Company's No. 2 J. R. Scott, 200 feet to north line, 150 feet to west line, J. M. Urango Survey; total depth 690 feet; drilling. Same company's No. 3 J. R. Scott, 7,100 feet southwest of No. 1, J. M. Urango Survey; location.

Union Producing Co.'s No. 17 Ray, 1,200 feet north of No. 11; total depth 3,996 feet; drilling shale. Same company's No. 18 Ray, east offset to Buchanan and Ogden's No. 1, Block 38, Pettus, center of Block 38, Pettus Townsite; total depth 581 feet; drilling sand and gravel. Same company's No. 21

Ray, east offset to Block 40 of townsite, 900 feet south, 150 feet east of northeast corner of townsite; derrick. Same company's No. 23 Ray, east offset to Block 39, 1,260 feet south, 150 feet east of northeast corner of townsite; location. Same company's No. 25 Ray, 1,700 feet south and 1,400 feet east of survey lines; location. Same company's No. 26 Ray, 2,500 feet south line, 2,000 feet east line of P. Miller Survey; location. Wilson & Hill's No. 1, Block 14, Townsite, center of Block 14, Pettus Townsite; waiting on permit. Same parties' No. 1 Roberts, center of Block 16, Pettus Townsite; ready to spud. Nichol's Oil Corp.'s No. 4 Hicks, 550 feet east of west line and 430 feet south of north line of Block 20, Uranga Survey.

Pettus Area—Goliad County

Union Producing Co.'s No. 27 Ray, 1,500 feet southeast line, 4,550 feet southwest line of J. Gomez Survey; location. Same company's No. 28 Ray, 150 feet south line, 800 feet west line of Ray tract of 416 acres; location. Same company's No. 29 Ray, 450 feet north line, 215 feet west line of A.B.&M. Survey; location.

Cartwright Field—Live Oak County

Houston Oil Co.'s No. 22 Cartwright, 500 feet east of No. 18; total depth 5,425 feet; drilling.

Agua Dulce Field—Nueces County

South Texas Production Co.'s No. 2 Ollie Purl, 120 feet northeast of No. 1; rigging up.

Saxet Field—Nueces County

Saxet Oil Co.'s No. 2 Donnegan, 2,150 feet south of No. 1; derrick.

Lion-McFadden Pool—Victoria County

Houston Oil Co.'s No. 1 McFadden, 330 feet south and 900 feet east of southeast corner of survey, L. Mann Survey; total depth 3,000 feet; drilling. Lion Oil Refining Co.'s No. 2 McFadden, 1,917 feet west of northeast corner and 512 feet at right angles from the north line of the Edwards Survey, in the M. J. Travesia Survey; total depth 4,965 feet; drilling. The Texas Company's No. 1 A. M. McFadden, 1,550 feet from north and east lines of H. Benny Survey; total depth 4,500 feet; drilling.

CANADIAN FIELDS

(Continued from Page 53)

of the Victory well, drilled fairly close to the town.

The Peace River area was decidedly active for several years following 1915. The Victory well was the last active test, and drilled more or less intermittently till a few years ago. The log shows the test encountered gas and an oil sand around 722 to 730 feet, while another thin sand at 833 to 836 feet also showed oil. Between 1,114-56 feet an oil sand gave a good show of crude, and after a 2-foot band of shale this sand recurred and continued to 1,188 feet. The well was later deepened to 1,500 feet when light gravity crude was struck. The tools were lost at this depth and later water troubles developed and the well had to be abandoned. The Victory acreage now represents part of the Four-X Oils holdings. Additional acreage has been secured close to some of the earlier Peace River tests, including the Peace River Petroleum Co.'s well close to the townsite; Canadian Petroleums, Peace River Oil Co. and Tar Island Oil & Gas Co. wells.

Peace River Oil Co.'s No. 1, also known as McArthur No. 1, which opened the field, encountered oil around 900 to 1,000 feet. It was estimated good for around 20 bbls. of heavy crude. In deepening for larger production, water came in, and the well was lost. Peace River's No. 2, at the same horizon, might have been made a small commercial producer but deepening was tried with the same result. In all, upwards of a dozen wells were drilled. They showed that the Cretaceous sand encountered in Peace River's No. 1 was present over a wide area at practically the same depth, indicating little if any structure beyond a gentle monocline. Every test drilled to this depth, a little short of 1,000 feet, encountered heavy crude, but there were no large producers, and water troubles ultimately resulted.

Attempts made to drill past the water vein were inspired by the hope that the underlying Devonian formation would show a higher grade oil in larger quantities. In two cases, after overcoming very great difficulties, drilling was carried below the water into the Devonian, one well, Canada Petroleum Co.'s No. 2, being drilled to below 3,200 feet. It apparently encountered small shows of a lighter crude. The Victory well also encountered a light crude around 1,500 feet, according to the log. Underlying the cretaceous sand, salt and sulphur water came from a boulder formation on top of the Devonian, producing huge water gushers, one reputed to have flowed 30,000 bbls. an hour. Gas was usually struck in large quantities at or near the water horizon. The field presents some difficult drilling problems and some interesting possibilities. Four-X's No. 1 test should get the oil horizon in the cretaceous within a few weeks.

North of Edmonton, Alberta Pacific Consolidated's No. 1 on the Duvernay structure, LSD 5, Section 34-55-12w4, is in the lower Devonian at 2,417 feet, but will plug back to make a test of a 60-foot sand drilled through in the Kootenay formation. Several sands in the upper horizons are drilled through and will probably be tested.

Imperial Tests

In South Turner Valley, Home Oil Co.'s No. 5, LSD 7, Section 20-19-2w5, has cleaned out and made bailing test after a shot of 300 quarts at 418 feet in the lime at 4,898 feet. The test failed to develop satisfactory production and the hole will be deepened. Home's No. 5 is somewhat south of the other Home producers and considerably lower on the structure. Northwest-Associated's No. 2, LSD 6, same section, has cleaned out after a shot in the lime at 5,423 feet and may be finished at this depth as a small producer, around 50 bbls. a day.

Central Turner Valley

In the southern section of Central Turner Valley, Structure Oil & Gas Co.'s No. 1, LSD 7, Section 31-19-2w5, is deepening against heavy gas flow from the Dalhousie sands. The initial flow at around 4,355 feet was reported 10,000,000 feet. Test is now drilling below 4,275 feet and making slow headway. The incidental crude is apparently becoming heavier as the well goes down, a light oil that looked like naphtha being met at 4,355 feet, and that at 4,365 feet testing darker and heavier, while at 4,375 feet the crude is still darker. The well may be finished as a small commercial producer in the present horizon without going to the lime.

In Section 1-20-3w5, Okalta Oils' No. 3, LSD 9, is 320 feet in the lime at 4,463 feet and looks like a fair commercial producer, with wet gas flow around 8,000,000. It will be drilled deeper.

In Section 12-20-3w5, New McDougall-Segur's No. 4, LSD 14, is at 5,030 feet and drilling with 5,800,000 feet of wet gas.

South Turner Valley

In South Turner Valley, Section 4-19-2w5, Mercury Oils' No. 2 is making around 80 bbls. and Mercury's No. 3 around 220 bbls.

In Section 20-19-2w5, Wellington Oils' No. 2, LSD 1, is reported rigged up ready to spud in. Calmont Oils' No. 2 is making around 250 bbls. and adjusting separators in an attempt to increase the crude naphtha recovery.

It is reported that Commonwealth Petroleums, Ltd., whose No. 1 Turner Valley, LSD 7, Section 9-19-2w5, discontinued work at 4,420 feet, are planning to drill another test if Southern Lowery's No. 1, in the same section, shows favorable results in the lime. Merland Oil Co., whose No. 1 well in Section 27-18-2w5, has been standing at 4,470 feet, is reported negotiating for completion of the test by another company. This test got a spectacular wet gas flow in the Dalhousie at 4,453 feet, making around 30,000,000 feet a day. Crude naphtha recovery was reported at only 100 bbls. a day, this being the first crude naphtha encountered in the Dalhousie horizon. The flow did not hold up and in attempting to deepen to the lime the tools were lost.

North Turner Valley

In North Turner Valley, Model Oils' No. 1, LSD 8, Section 22-20-3w5, deep lime producer has increased its crude naphtha recovery to a new peak of 155 bbls.

Pincher Creek Operations

In the Pincher Creek area, an important new test has been started by Alberta Gas & Fuel Co., a Canadian subsidiary of the Doherty interests. Following three unsuccessful tests in the Pincher Creek section, some 15 structure tests were drilled, with the result that No. 4 commercial test was located in LSD 16, Section 34-3-30w4. Location is on Carpenter Creek, about 14 miles south of the town of Pincher Creek, and quite close to the area known as Coal Oil Flat, where considerable shallow drilling was done during the first Alberta oil boom, nearly 30 years ago. The test was spudded in late in August. At last reports it was drilling around 150 feet.

Weymarn Petroleums' No. 2, LSD 5, Section 7-6-1w5, on the Mill Creek structure, recently resumed drilling in the Dalhousie sand at 1,878 feet and is reported drilling around 1,900 feet with additional wet gas production.

Drilling in the Foothills

On the High River-Aldersyde structure, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-29w4, is drilling below 4,175 feet. This is an interesting wildcat venture on a structure some distance east of the foothill belt and verging well toward the prairies, and interesting results are possible when the deep lime is reached.

In the old Monarch Field, work has been started on an important wildcat test to be drilled jointly by Majestic Oils, Ltd. and Cartier Oils, Ltd., in LSD 3, Section 36-31-7w5.

Red Coulee Field

In the international Red Coulee Field, Taylor Syndicate-Vanalta's No. 3, Section 4-1-16w4, has extended the producing area another quarter mile west. Settled production on the pump is reported at 80 bbls., around 33 gravity crude, but a gasoline engine is expected to step this up to 100 bbls. According to latest reports, the well is producing from a 52-foot sand picked up at 2,455 feet, the hole now bottoming at 2,507 feet. Imperial Oil, Ltd., is taking production. The well indicates a possible thickening of the sand west of the original Vanalta producers, and the likelihood of the big field, if any, on the Alberta side lying to the northwest. Vanalta's No. 1, same section, is reported holding up at 65 bbls. and No. 2 at 80 bbls. Alberta Pacific Consolidated's No. 1, Section 4-1-16w4, is a smaller producer. Still further east, Southern Alberta Exploration's No. 1, LSD 8, Section 3-1-16w4, is making around 80 bbls. Southern Alberta's No. 2 has derrick up and boiler in place. It is reported Alberta Pacific Consolidated's No. 2 will offset Southern Alberta's No. 1.

Atlantic Keystone Petroleums, Ltd., of Vancouver is reported preparing for a test. T. A. Collins of Los Angeles, manager of exploration and production, visited the field recently. Altamont Oil Co. of Vancouver will drill its No. 1 test in Section 28-1-16w4, northwest of the Vanalta producers.

On the Montana end Monalta Oil Co.'s No. 3 Buckley, Section 1-37-4w, is reported the best producer in the field. Alberta Pacific Consolidated's Singleton No. 1 is producing from the Vanalta sands at 2,492 feet extending the proven field a quarter mile south. Adanac Oil & Gas Co.'s No. 1, NE, Section 12-37-4w, is reported to have drilled into salt water at the contact. Vantana Oils' No. 1 between the Cut Bank and Kevin-Sunburst Fields is reported drilling below 1,900 feet after passing through two gas horizons. Cosmos Petroleums' No. 3 is reported rigged up, offsetting Rice-Radigan's No. 2. Inland Petroleum's No. 2, east of No. 1 producer, is drilling below 1,250 feet. No. 1 is on the pump and delivering to the pipe line.

Vulcan Oils, Ltd., of Calgary has secured about 2,000 acres in the Border Hills area, representing a potential northwestern extension of the Red Coulee Field and has made a tentative location in Section 23-1-18w4. In this area one of the cross folds which runs in a southwest-northeast direction is in evidence. The Red Coulee Field lies to the southwest, with, in a northeasterly direction, the Border Hills area, and then the Shanks Lake and Spring Coulee structures.

Border Fields

In the border areas of southern Alberta, Range Oil & Gas Co.'s No. 2, LSD 6, Section 21-1-11w4, is reported resuming after encountering the first gas sand, at around 2,900 feet. Range's No. 1, formerly the Rogers-Imperial well, was tested recently, after being shut in for several years, and is reported to have made up to 41,000,000 feet a day with back pressure of 600 pounds. Blowing wide open a production of 65,000,000 feet a day was originally claimed.

On the Beaver Dome structure, Madison Oils' No. 2, LSD 10, Section 24-2-11w4, which has been standing for about a year at 1,810 feet with 8¼-inch casing set at 1,790 feet, is preparing to resume. Contract has been let for completion of the well, which is 6 miles north of Range's No. 2 gasser.

In the Taber district, Cole English Syndicate, whose No. 1 test in Section 11-10-17w4 was some time ago abandoned at 3,303 feet, is reported starting structure tests on acreage about 4 miles south of Taber.

In the Eyremore district, Hudson's Bay Oil & Gas Co.'s No. 2 Lomond, LSD 1, Section 26-17-18w4, is drilling at 4,460 feet. In the Keho Lake district, Hudson's Bay's No. 1 Keho, LSD 2, Section 17-11-22w4, is drilling below 1,830 feet.

On the Montana side, Monopeg Oil & Gas Co.'s No. 1, Section 28-35-1w, in the eastern part of the Kevin-Sunburst Field is reported testing light crude production at 1,340 feet.

Ribstone Field

In the Ribstone Field, eastern Alberta, Meridian Oils' No. 3, LSD 4, Section 16-45-1w4, is reported again drilling after cementing 12½-inch casing at 350 feet. This is the first of three additional tests by Meridian Oils, Ltd. A recent test of Imperial Oil's No. 2 Ribstone, LSD 14, Section 9-45-1w4, showed that oil had again risen to 1,170 feet in the hole. A previous seven-day bailing test failed to lower the crude below 506 feet from bottom.

Wainwright Field

A geological party in charge of S. E. Slipper is reported to have secured headquarters in Wainwright in preparation for an exhaustive geological survey of the Wainwright Field with possible diamond drill structure tests during the fall and winter. It is unofficially reported this work is being conducted under the auspices of Northwestern Utilities, Ltd., of Edmonton, possibly with a view to securing additional gas reserves for the proposed Saskatchewan pipe line. Hudson's Bay Oil & Gas Co. in association with the Continental Oil Co. had a geologist in the field recently securing data regarding the wells drilled, in preparation, it is understood, for more extensive geological work in the fall.

On the Paint Earth Creek structure, Hudson's Bay Oil & Gas Co.'s No. 1 Paintearth, LSD 5, Section 27-39-15w4, is reported drilling at 1,415 feet.

Quebec Gas Strike

The recently reported gas strike near Lanoraie, Quebec, may prove a small commercial producer. The location is about 40 miles east of Montreal on the north shore of the River St. Lawrence. The test was drilled by the Lanoraie Gas & Oil Syndicate. It apparently encountered the rock after drilling through about 180 feet of drift, and at 20 feet in the rock the well came in, blowing sand, gravel and rock fragments over the derrick. No estimate has been given of the flow, but the well is stated to have around 500 pounds rock pressure. It is reported No. 1 well will be shut in and a second test started, to be carried deeper into the Trenton limestone for oil.

Saskatchewan Test

In the province of Saskatchewan, Simpson Oil Co.'s No. 1, Section 9-29-25w2, is resuming at around 2,200 feet after running casing. This test, which has been drilling intermittently for several years, is thought to be just above the limestone.

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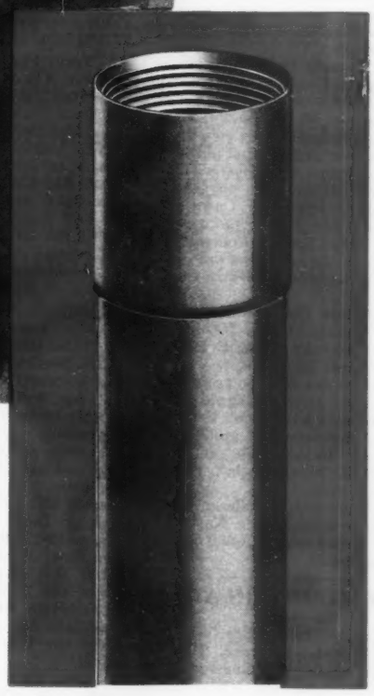

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OIL COUNTRY TUBULAR PRODUCTS

The test is located in east central Saskatchewan, a long distance east of other drilling areas, which are all in the western part of the province. Small shows of oil and gas have been reported at various times, but nothing approaching commercial production.

British Columbia Operations

In southwestern British Columbia, Caribou Oil Co. of Vancouver has let contract to be drilled to 2,000 feet. J. F. Harrison Drilling Co. will handle it, and the location will be close to the Fraser River.

In the Boundary Bay area near Vancouver, International Pipe Line Co. is reported to have cleaned out the old Monarch well and put it in shape for gas production. This test, which will be known as International's No. 1, was drilled to great depth by the Monarch Oil Co. in the search for oil and encountered some gas in the upper horizons. Location is near Steveston. International's No. 2 has been started as a further test for gas. The International company is reported planning to drill on acreage near the two Spartan Oil Co. tests drilled between Vancouver and New Westminster some years ago. These tests encountered some gas but were not completed, Spartan's No. 1 being drilled to 2,000 feet and No. 2 to around 1,800 feet. In the same general area there was considerable drilling at the time of the Fraser Valley boom. A test by the Boundary Bay Oil Co. was carried to 4,117 feet and another by the Pitt Meadows Oil Co. to 2,725 feet. A number of small gas shows were met in drilling, and the present company is planning to develop commercial gas production if possible and pipe the product to Vancouver. International Pipe Line Co. is also reported starting work near Bellingham, Washington, where it holds considerable acreage.

Ontario Drilling

In the Dawn Field, Lambton County, Ontario, Union Natural Gas Co.'s No. 48 Harris farm, Lot 30, Concession 9, Sombra Township, finished a dry hole at 2,105 feet and has been plugged and abandoned. Union's No. 49 has been located, also in the west end of the field on the Ellis farm, Lot 29, Concession 1, Dawn Township. Union's No. 50 has been located on the Grey farm, Lot 23, Concession 10, Dawn, toward the eastern end of the field. All are tests of the Dawn sand for gas.

In the D'Clute Field, Raleigh Township, Kent County, Union Natural Gas Co.'s No. 14 Hornby farm, E half, Lot 147, North Talbot Road, finished at 1,580 feet with initial gas flow of around 140,000 feet a day. It was plugged back to 1,570 feet and shot with about 450 pounds of dynamite, increasing the production to 350,000 feet. Union's No. 15 Storey farm, Lot 142, North Talbot Road, is drilling at 475 feet.

In Mosa Township, Middlesex County, Southern Ontario Gas Co.'s No. 3, near Newbury, finished dry at 1,950 feet and has been abandoned.

ROCKY MOUNTAIN AREA

(Continued from Page 53)

pany's No. 3 State, NW cor. SW, Section 30-18-38, spudded on August 27, and its No. 4 State-Northrup, NW cor. SE, Section 32-18-38, is drilling at 3,687 feet in lime. Ohio's No. 5 State-Northrup, SW cor. SE, Section 32-18-38, commenced spudding August 27.

Prairie Oil & Gas Co.'s No. 2 Grimes, SW NW NW, Section 28-18-38, has cellar completed, and its No. 2 Selman, SW cor. NE, Section 15-19-38, is digging cellar. Same company's No. 1 Grimes, SW cor. NW, Section 28-18-38, cemented 9⅝-inch at 2,750 feet.

Shell Petroleum Corp.'s No. 1 Berry, SE cor., Section 31-18-38, is bottomedat 3,900 feet in lime and preparing to core, and its No. 4-A State, SW cor. NE, Section 32-18-38, cemented 7-inch at 3,960 feet. Same company's No. 1-B McKinley, CNL SW, Section 20-18-38, cemented 12½-inch at 242 feet and is rigging up rotary, and its No. 1-B State, NW cor., Section 33-18-38, cemented 9⅝-inch at 2,750 feet. Shell's No. 1 Grimes, SW cor., Section 28-18-38, cemented 9⅝-inch at 2,750 feet, and its No. 2 Grimes, NW cor. SW, Section 28-18-38, is plugging back from 2,740 feet to 2,160 feet to straighten hole. Same company's No. 2-B McKinley, SE cor. SW, Section 20-18-38, cemented 12½-inch at 242 feet and is rigging up rotary, and its No. 2 McKinley, SW cor. SE, Section 19-18-38, is drilling at 4,023 feet in lime. Shell's No. 3 McKinley, SE cor., Section 19-18-38, is still a location, and its No. 4 McKinley, SE cor. SW, Section 19-18-38, is drilling at 3,838 feet in lime. Same company's No. 5 McKinley, NW cor. SE, Section 19-18-38, is drilling at 3,735 feet in anhydrite and lime. It topped brown lime at 2,885 feet, and had first gas at 2,914 feet and first oil at 3,200 feet. Elevation is 3,460 feet. Shell's No. 6 McKinley, NE cor. SW, Section 19-18-38, is drilling at 3,478 feet in anhydrite. It topped brown lime at 2,816 feet and had first gas at 2,831 feet. Elevation is 3,661 feet. Same company's No. 7 McKinley, NW cor. SW, Section 19-18-38, is drilling at 3,455 feet in lime and anhydrite.

Skelly Oil Co.'s No. 1 Fowler, NW cor., Section 31-18-38, is coring at 3,960 feet in lime. It topped brown lime at 2,820 feet, had a show of oil and gas at 3,195-3,210 feet, an increase in oil and gas at 3,588-3,600 feet and an increase in oil at 3,750-60 feet. Elevation is 3,650 feet.

Sun Oil Co.'s No. 2 McKinley, C SE NE, Section 5-19-38, is drilling at 50 feet in sand. It spudded August 26. Same company's No. 3 McKinley, NW cor. NE, Section 5-19-38, is a rig.

The Texas Production Co.'s No. 2 McKinley, C NE SE, Section 5-19-38, is a rig, and its No. 1 McKinley, NE NW SW, Section 4-19-38, is drilling at 3,620 feet. Same company's No. 2-C State, SE cor. NE, Section 25-18-37, cemented 12½-inch at 220 feet.

Texas Pacific Coal & Oil Co.'s No. 2-G State, NE cor. SE, Section 24-18-37, cemented 9⅝-inch at 2,782 feet in anhydrite.

Tidal Oil Co.'s No. 1 Hardin, SW cor. NE, Section 19-18-38, cemented the 7-inch at 3,950 feet. Its No. 2 Grimes, SW SE NE, Section 29-18-38, is drilling at 3,600 feet in anhydrite. It topped brown lime at 2,765 feet, had first oil at 3,185 feet and first gas at 2,780 feet. Elevation is 3,652 feet. Tidal's No. 3 Grimes, NE cor. SE, Section 29-18-38, spudded on August 23 and cemented 15½-inch at 228 feet.

Eunice Area—Lea County

Tidal Oil Co.'s No. 1 Colman, SW cor. NE, Section 17-21-36, in the Eunice area, is bottomed at 3,974 feet in lime where it has been testing and is rigging up cable tools to drill deeper. In a 6-hour swabbing test on August 22 it averaged 25 bbls. per hour and the small quantity of sulphur water was practically exhausted. In the latest swabbing test it made 353 bbls. in 24 hours. George F. Getty, Inc.'s No. 1 State, NE cor., Section 19-21-36, is drilling at 3,509 feet in lime. The big gas encountered at 3,180 feet showed increases at 3,262-69 feet and 3,391-3,400 feet. This well is one-fourth mile southwest of the Continental's No. 1 A. E. Meyers, a producer, and the Tidal well is half a mile northeast.

Ohio Oil Co.'s No. 1 State-McDonald, SW NW SW, Section 15-22-36, which showed for 30,000,000 feet of gas at 3,645 feet, is coring ahead at 3,762 feet in sandy lime. Continental Oil Co.'s No. 1 William Meyers, SW cor. NW, Section 28-22-36, is trying to ream past tools at 3,670 feet.

Cooper Area—Lea County

Texas Pacific Coal & Oil Co.'s No. 1 State, SE cor. SW, Section 22-23-36, Cooper area, is 205 feet below old bottom at a total depth of 4,200 feet and is held up with a drill stem stuck.

Caprock Area—Lea County

Texas Production Co.'s No. 1 Bridges, SE cor. NW, Section 17-17-34, encountered water at 140 feet, cemented 15½-inch at 200 feet and is rigging up rotary.

Jal Area—Lea County

Midwest Refining Co.'s No. 19 Farnsworth, SW SW, Section 14-26-37, has reamed to 3,390 feet. The 10-inch was cemented at 2,852 feet.

Lovington Area—Lea County

Gault, Brown and others' No. 1 State, SW NW NW, Section 9-15-35, is building rig.

Eddy County

Lockhart & Co.'s No. 2-X Parke, NE NW NW, Section 23-17-30, Maljamar area, is drilling at 3,115 feet in hard brown lime. Flynn, Welch & Yates' No. 2 Stevens, NW NE SW, Section 13-17-30, is fishing at 3,442 feet in gray lime. It had some oil at 3,370 feet which increased at 3,414 feet. It was estimated at 100 bbls. per day. Leonard & Levers have made a location for their No. 4 State, 1,650 feet from west line and 660 feet from south line, Section 21-17-29, half a mile southwest of its three gas wells. R. D. Compton's No. 3 Brainard, SE SE, Section 5-18-27, Artesia area, is reaming at 1,087 feet in lime and will run 8¼-inch.

George F. Getty, Inc.'s No. 5 Dooley, NW SE NW, Section 23-20-69, in the Twin Mounds district, was abandoned at a total depth of 1,554 feet at which depth it had a hole full of sulphur water. It topped salt at 467 feet and topped brown lime at 1,170 feet. Elevation is 3,296 feet. There was a show of gas at 1,190 feet and a show of oil at 1,410-15 feet. The location is on the west side of the Twin Mounds Pool in which the company has several wells producing black oil. Some of this oil is being trucked to the refinery at Dayton where a good grade of road oil is being produced for use on State highway projects.

Otero County

R. H. Ernest and others' No. 1 Located Land Co., SE Section 20-25s-7e, is standing with 15½-inch pipe cemented 728 feet.

McKinley County

H. L. Williams' No. 1 Santa Fe, NW, Section 19-18-8, Hospah district, is reported bottomed at 2,280 feet and running 12½-inch. This is a test to the Pennsylvanian at 4,500 feet.

Valencia County

Thomas B. Harlan and others' No. 1 Harlan Ranch, is drilling at 4,600 feet with no important shows below 2,565 feet where it had a show of oil and gas.

COLORADO

Morgan County

Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, Morgan County, about which the company is giving out no information and in which there is a widespread interest, is reported to have set 10-inch casing at 2,875 feet where it was having considerable trouble with cavy ground. The cement did not hold and it was decided to drill deeper for a better seat. Below the depth at which the casing was set the hole is said to be holding up much better and drilling is in progress below 3,000 feet. The best information available is that the Hygiene sand, the first definite marker expected, has not been encountered. It was looked for between 2,200 and 2,400 feet. This is interpreted by some in closest touch with the operation as meaning that that horizon is not in place and that its absence may indicate a thining of the beds, while others express the opinion that it may yet be picked up, in which event the Dakota will be much deeper than expected. Attention was directed to this anticline several years ago in the United States Geological Survey's Bulletin 796-B by Kirtley F. Mather, James Gilluly and Ralph G. Lusk. Subsequently Dr. F. Van Tuyl, of the Colorado School of Mines, assembled a block of leases. Dr. C. A. Heiland did considerable magnetometer and torsion balance work in that area and this was checked by the Indian Territory company's geophysical staff. The test well was spudded in on March 19 and since then the operation has attracted considerable attention as the drill is expected not only to disclose the possibilities for oil in the Dakota and Sundance sands on the line of folding, but yield valuable information as to the practicability of geophysical methods in determining structural conditions in that area.

Weld County

The Platte Valley Petroleum Co.'s No. 1 Patterson, SW SW, Section 24-6n-61, Greasewood Dome, west of the Indian Territory's well, has resumed drilling after a shutdown to renew leases and is making hole at 6,340 feet. It continues to have slight shows of oil in the shale and is supposed to be less than 300 feet off the objective Dakota sand. It is carrying 4¾-inch casing.

Larimer County

C. Leonard Smith's No. 1 State, SE cor., Section 36-12n-70, Sand Creek, 6 miles west of Round Butte, lost its second hole and is drilling at 200 feet in the third hole. The formation was very hard. At 60 feet there was a good show of oil and gas in the top of a shale break just below lime. This is a test of the Pennsylvanian formation. Donahoe & Babcock's No. 1 Maxwell, SE NE NE, Section 25-8n-70, northwest of Fort Collins, is shut down at 125 feet. Continental Oil Co.'s No. 1 Hoffman, SW NE, Section 23-4n-70, Deininger Dome, recemented the 10-inch at 490 feet. Same company's No. 3 Scott, SW SE, Section 6-9n-68, Wellington Dome, a producer in the Muddy being deepened to test lower horizons, is bottomed at 4,585 feet and trying for a formation shutoff with 8¼-inch casing. It had water in the Dakota and is expecting the Lakota at 4,615 feet.

Boulder County

The Lyons Oil & Refining Co.'s No. 1 Allen, NW NW, Section 17-2n-70, Mesa Dome, is shut down at 2,520 feet on account of misunderstanding with the State Oil Inspector's office. The 6¼-inch casing is on the ground to make a water shutoff, but the Gas Conservation Commission has ordered operations stopped until the company puts up a $2,000 bond under the rules recently issued. The company gave a bond once, but on advice of counsel, in which it was held that the law was not binding, the bond was cancelled.

Jefferson County

The Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, is drilling at 3,664 feet in an unidentified formation believed to be the top of the Niobrara, and is carrying 6⅝-inch casing.

Douglas County

The Perry Park Oil Co.'s No. 1 Cannon, SE NW, Section 11-9s-68, is drilling at 1,670 feet. The 8¼-inch was set at 1,400 feet and it was planned to run the 6¼-inch and carry on account of cavy ground, but the hole is standing up better and this string was not put in. At 1,350 feet there was a show of gas in the Pierre shale in sufficient volume to burn 5 to 6 feet above the top of the casing.

Baca County

The A. R. Jones Oil & Operating Co.'s No. 1 Boice Cattle, NW NE, Section 22-34s-42 (Tract 50), Miles Camp Dome, is drilling at around 4,000 feet in a very coarse blue shale similar to that found in the Hugoton district in Morton County, Kansas, just above the gas sand. This well is 8 miles west of the Hydraulic Oil Co.'s No. 1 State, NW SE, Section 22-24-43, Morton County, which had gas at 1,200-10 and 1,350 feet, and is north of the Magnolia Petroleum Co.'s test in the Boise district in Cimarron County, northwestern Oklahoma, which is reported to have bailed 2 bbls. of oil and 1 bbl. of water per hour at around 4,600 feet and which is going back to the rotary to drill deeper.

Huerfano County

The Ojo Exploration Co.'s No. 1, Section 5-29s-69, was abandoned at 600 feet. It was drilled to test the area around the old Ojo oil seep. No shows were encountered below 150 feet. No additional drilling is planned at this time. The Parker Club, Inc., has authorized additional work on its No. 1 Fee, Section 4-28-68, Badito-Alamo Dome. It is bottomed at 4,115 feet on top of the Lakota sand with a slight show of oil, but has been held up by tools in the hole. Plans provide for cleaning out the hole and testing the Lakota and possibly going to the Pennsylvanian.

La Plata County

Murchison Oil Co.'s No. 1 Doescher, SW NW, Section 29-33-13w, is shut down at 475 feet laying water line.

Fremont County

Continental Oil Co.'s No. 1 Shaw, SE NW, Section 2-19-70, Canon City district, is drilling at 1,700 feet. This well

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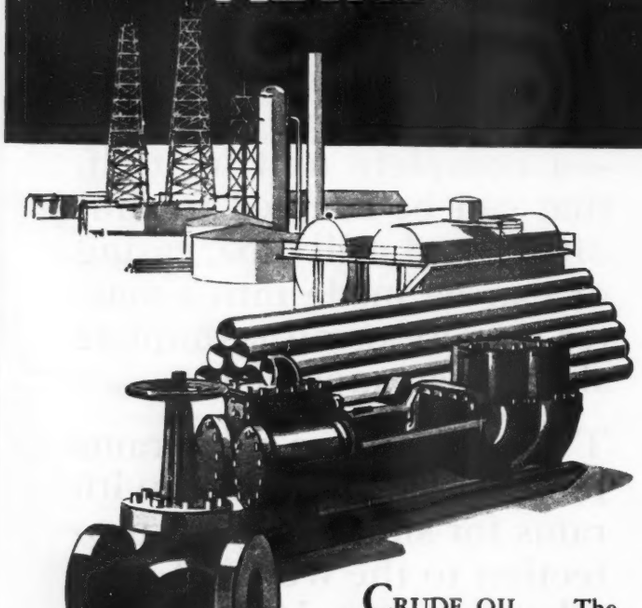

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Archuleta County

Standard Oil Co. of Colorado's No. 1 Fitzhugh, SE SW, Section 34-33-1e, Chromo Dome, is drilling at 502 feet. Same company is drilling below 75 feet in its No. 1 Crowley, 2½ miles north of the New Mexico line, on unsurveyed land in the Tierra Amarillo grant.

Mesa County

Argo Oil Co.'s No. 1 Hoel, NE NE, Section 23-8s-104, High Line, is fishing at 2,760 feet.

Garfield County

Fulton Petroleum Co.'s No. 1 Smith, NE NW, Section 8-8s-102, Garmesa Dome, is drilling at 2,300 feet. The 10¾-inch was cemented at 2,068 feet and the gas sand is expected at 2,900 feet.

Park County

South Park Oil & Gas Co.'s No. 1 Esche, SE NW, Section 5-9s-76, is shut down at 445 feet for fuel. South Park Oil Co.'s No. 1 Milligan, NE SE, Section 13-8-76, is reported to have cut the Carlisle shale at 810-1,037 feet and at 1,039 feet to be 2 feet in a hard fine sand showing some rainbows on the sump. The 10¾-inch is at 792 feet, but not cemented.

Rio Blanco County

Magnolia Petroleum Co.'s No. 1-A Fordham, NW cor. SW, Section 9-2s-96, Piceance Creek, has been completed at 2,985 feet as a gas well after plugging back from 5,130 feet. It gauged 1,876,000 feet in 24 hours with a pressure of 715 pounds. This well, originally started by the White Eagle Oil & Refining Co., was a test of the Green River formation of Tertiary age. Several shows of gas were encountered, but no important oil shows. The shale beds were much thicker than expected and the bit was still in that formation when drilling stopped. A sand at 4,820-40 feet was dry except for a show of gas and there was another sand at 4,990-5,010 feet. Under the agreement which permits were extended, only one well is to be drilled prior to February 1, 1931. Whether another test will be made after that date, is not determined. It is probable another will be drilled to develop a supply of gas for the towns of Rifle and Newcastle where the Southern Union Gas Co. has franchises. The Texas Production Co.'s No. 1 Potter, NE SW, Section 30-2n-96, White River, is still being opened at intervals to blow in hope it will clean itself and come in as a producer. In an 11-minute test recently the pressure was 1,420 pounds and it flowed 16 gallons of oil and 25 gallons of mud.

Routt County

Texas Production Co.'s No. 4 Carstarphen, NW NW, Section 5-6n-86, Tow Creek, is drilling at 101 feet.

Moffat County

S. H. Keoughan and others' No. 1 State, SW SW, Section 16-4n-101, Skull Creek, is drilling at 2,430 feet in shale. The hole is caving and it may be necessary to lower the 8¼-inch which is at 2,160 feet. Midwest Refining Co.'s No. 24 Hannewalt, SE SE, Section 4-6n-92, Bell Rock, is bottomed at 2,970 feet in gray sandy shale and is burying 3,000-foot water line. It will be put 4 feet under ground. It is planned to continue operations into the winter in the hopes of completing the well this year. Texas Production Co.'s No. 12 Knowlton, SW SE, Section 33-5n-91, Moffat Dome, is delayed by a fire which destroyed the housing and resulted in the steel derrick collapsing. The hole was bottomed in the Sundance at 4,576 feet. The drill stem was at the bottom and the well was not damaged. A rig is being built to complete the well with cable tools. The origin of the fire is unknown. The well was not making any gas as it was full of mud to hold down pressure. The Texas Production Co.'s No. 1 Berlin, SW NE, Section 19-12n-100, Bartram Dome, has been shut in after being allowed to blow to clean itself. It is the discovery well on this dome, having been drilled to 2,654 feet and plugged back to 2,055 feet. It cut several gas horizons making an aggregate flow of 72,000,000 feet a day, but ran into water at the bottom. The sand that was saved at 2,002-55 feet made 23,000,000 feet when first gone through. While cleaning itself it made better than 10,000,000 feet a day.

WYOMING

Midway Dome

The Midwest Refining Co.'s No. 11 Middy, C NE NE, Section 23-35-79, Midway Dome, has shown no important change. Three-inch tubing was run and the well is being given a 10-days' pumping test at a total depth of 5,215 feet. It was given a short swabbing test through the tubing and made between 30 and 40 bbls. per hour. There was a little bottom water showing and some experimenting will be done to determine the quantity and the best way of handling it. A representative of the United States Bureau of Mines is at the well to co-operate with the operators. The failure of the well to flow after running the tubing was somewhat of a disappointment as it had made several heads one of which put the oil 20 feet over the crown block.

Natrona County

The Chicago Oil Co.'s No. 3, SW. Section 1-33-83, Poison Spider, a test to the granite, is drilling at 3,700 feet in the Deadwood formation.

Converse County

Continental Oil Co.'s No. 50 Whiteside, SW SW, Section 9-33-76, Big Muddy, is rigging to deepen from 3,207 feet. Weisman Big Muddy Oil Co.'s No. 1, SW SE, Section 6-33-76, is bottomed at 2,420 feet and is running 6⅝-inch casing to shut off cavey ground.

Niobrara County

Argo Oil Co.'s No. 7 Wehopeso, SW NW, Section 19-39-60, Mule Creek, is drilling at 3,140 feet in red and black shale, presumably the Amsden formation. It had a show of oil and gas at 3,087 feet and a show of oil at 3,125 feet. The test is headed for the Madison lime. The shows of oil and gas below the Embar-Tensleep, which carried water, is considered very encouraging.

Weston County

Pipe line runs from the Osage Field in August, including deliveries to refineries, aggregated 42,886 bbls. in August, which compares with 32,500 bbls. in July and 24,500 bbls. in June. Runs last week averaged 1,450 bbls. daily. Another good completion was reported in the Osage Trust Co.'s No. 4, NW NE SE, Section 14-46-64, which found the gas sand at 1,620 feet and oil at 1,635 feet. After drilling through the shell it started flowing 30 bbls. per hour. It made 380 bbls. the first 12 hours. It will be deepened before being completed. The Paris-Wyoming Oil Co.'s No. 1, NW NE SE, Section 7-46-63, in the shallow oil district, found the Muddy sand at 590-602 feet and will pump 30 bbls. initial. B. V. Hole is manager for the company, which is composed of French interests. Several additional wells will be drilled around the producer. Straitiff & Curtis' No. 4, SE NE, Section 14-46-64, is moving in material, and Yellowstone Petroleum Co.'s No. 1, NE NW NE, Section 23-46-64, is spudding. Osage Trust Co.'s No. 7, NW SE, Section 14-46-64, is spudding, and Bert Higgins' No. 3, NE NW SW, Section 4-46-63, is bottomed at 210 feet and repairing drilling machine. Dexter Oil Co.'s No. 1, NE, Section 1-45-64, is spudding, and Osage Trust Co.'s No. 7, NW cor. SE, Section 14-46-64, is rigging up. Henderson, Garbereck and others' No. 1 Bock, SW cor. Section 2-46-64, is fishing, and James McCullough's No. 1 Logan McCullough, NE NE, Section 23-46-64, is drilling at 800 feet. Hugh Updike & Sons' No. 2, SW NE NE, Section 14-46-64, is drilling at 200 feet.

Fremont County

Producers & Refiners Corp.'s No. 2, NW SE NW, Section 33-34-92, Muskrat Dome, is coring at 4,127 feet. This well is 1½ miles northwest of the discovery which was completed at 4,340 feet in 1928 as a 75,000,000-foot gas well in the Frontier. No. 2 well is being drilled with a rotary and the plan is to go through the gas and test lower horizons for oil if possible. The 15½-inch is at 383 feet. The same company's No. 10, NW cor., Section 14-32-95, Big Sand Draw, is reaming at 3,602 feet and has

(Continued on Page 148)

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(ADDITIONAL CLASSIFIED WANTS ON NEXT PAGE)

Weather Cuts Consumption in Chicago

Jobbers Ordering Only What They Need. Largest Business on Contracts, Spot Being Light. Effect of Advance

By J. B. Waldo

CHICAGO, Sept. 8.—Local rain and cloudy weather in this and many parts of the territory doubtless contributed to the lack of active gasoline demand in this market this morning. The local jobbers are ordering only what they need and the light consumption over the week-end reduced the quantity which many required. The largest part of the business done in gasoline was on contracts, the spot business being light today. There were some days last week when the sales were fairly large, but for the greater part of the week since the Labor Day holiday the spot demand has been light. The advance in prices has something to to do with this condition. Gradually the spot price has been worked up here until the bulk of the business in the U. S. Motor grade is going today at 6 to 6¼ cents, Group 3.

There were some reports that some refiners were asking one-quarter of a cent more but so far as could be learned the top price in the group and in this market was 6¼ cents. If the rumors were put out as a feeler to see how the trade would take another advance of one-quarter cent the reception given the suggestion by even those more interested and desirous of increasing the gasoline price met with little favor. As some said, "Wait until the jobbers have paid 6¼ cents before the price is further advanced."

Effect of the Advance

An indication of the attitude of refiners were several letters to regular buyers asking them if they could expect any gasoline orders in the near future. The thought with buyers was that the refiner might be ready to make some concessions if the buying was long delayed. Orders are mostly for the U. S. Motor grade on which the going price is 6 to 6¼ cents with some occasional shading of the price, these concessions being made more last week than today when the market is beginning to feel the full effect of the advance in refinery prices. There is very little gasoline for sale by marketers at less than the full quotation. The demand for the antiknock gasoline is active. For the high tests the call is light although prices are up but a little.

Kerosene continues to be quiet although some refiners are asking more for it. Furnace oils of all kinds were moving steadily at unchanged prices. A distributor said that his company and others he knew of were not making as many preseason fills of their customers' tanks as a year ago owing to slow collections. They would wait until the customers ordered and sell for cash. Straw gas oil is scarce; other grades are in ample supply. Heavy industrial fuel oil is inquired for more freely and some more business is doing, the inquiries today being fairly numerous. Prices showed no change.

Sellers of lubricating oils state that the demand for the low cold test winter oils is just beginning. Salesmen are out making contracts for refinery stocks for the coming season. They claim the prices cannot go much if any lower than at present for bright stocks and neutrals.

Jobbers' Small Stocks

Some individuals in the local trade have commented on the fact that it was fortunate that the jobbers had small stocks at this time, when the refiners were trying to get their price for gasoline up to a fair figure. The fact that the jobbers have small stocks is one of the reasons for the condition of the gasoline market for if they had the usual quantity of gasoline in their storage it would mean that they had bought more and the refinery shipments would have been larger than they were during the past season. Whether the market would have been any stronger would have depended a good deal on the actions of refiners. If they had increased their runs proportionately, the result would have been just the same or even a little worse, for there would have been more gasoline to get rid of at a time when the consumption was not at its best at least in this territory. The jobbers who stored gasoline for the season's advance in price bought early and freely. They had the gasoline bought at a price which they expected would leave them a good profit. Then they waited for the larger consumption to come with the season. It did not develop as anticipated owing in part to the weather and in part to lack of employment and other economic conditions which reduced the consumption materially. At the end of April some refiners were pushing their sales and making lower prices to move their accumulations of gasoline, which they had run for a demand which did not materialize.

The same conditions ruled during the month of May and at the beginning of June still larger accumulations were being forced on the market at prices which at best were not higher than they had been earlier in the season. About this time some of the jobbers began to stop buying and to draw on their storage. They found that they could buy the same grade of gasoline for lower prices than they had paid for their gasoline in storage. From that time on the buying was reduced to their actual wants only and some of the largest had enough gasoline to last them until August at the rate of consumption. Their plan of reducing their stocks to the lowest possible level and still be able to do business worked well for the jobbers up to Labor Day. Then quite a number in the vicinity of this city and over the Standard of Indiana territory ran short of gasoline, actually could not care for their customers owing to lack of material. On this market which is practically bare of stocks in storage, came the advance of the refiners to 6¼ cents Group 3, for U. S. Motor gasoline. The question is will the refiners be able to hold and to advance their price or will they not? If they cannot hold at least a 6½-cent price the chances seem to be in favor of a tank wagon decline over the territory. During the past few days, the service station price has been cut amounts varying between 2 and 3 cents a gallon at a number of important cities in the Standard of Indiana territory. Among these points are Indianapolis, Terre Haute, Springfield, Ill., and Peoria, Flint, Mich., Mankato, Minn., Huron, S. D., and many others. The cities mentioned serve to show how widespread is the disease, how general the condition. In each case of the cities mentioned, the tank wagon price was not changed, the reduction being confined to the service station price.

Cut Prices

This is a situation that cannot continue. Much as the major distributors may want to avoid a reduction in prices, and strongly as they realize that no reduction will materially increase their sales to make up for the loss in profit due to the lower price, they cannot continue to do business with such a material number of their outlets selling at cut prices. Take Chicago for example. A motorist stated in reply to a question that he was paying 17 cents for his gasoline which was 2 cents under the service station price plus the tax. Probably more than one-half of the gasoline sold in this city is being passed out at 17 cents or less. With gasoline costing the distributor who can buy in tank car lots, 6¼ cents Group 3, and with a .0238 freight cost, the laid down price on the jobber's sidings would be 8⅝ cents. The price of 17 cents to the motorist includes a 3-cent tax and the net to the jobber is 14 cents. Evidently the jobber selling gasoline at 14 cents still has a margin of 5⅜ cents gross profit. The conditions vary a little in different parts of the territory, in some the margin being a little less and in others a little more than 5 cents gross profit to the jobber. Basing their arguments on this condition, the trade in this city argues that the reduction will be either 3 or 4 cents. Jobbers who operate on a G.D.A., or any other form of contract which provides for tank wagon deliveries are usually protected as to the amount of their margin by their contracts.

Local Protection

In connection with the marginal contracts between refiners and their jobbing customers, the question of local protection is being brought up in a number of instances. The usual contracts do not provide for local protection, that is for price reductions by the refiner based on local cuts in price. His contract is based on general changes only. The refiners figure that it would do no good to undertake to care for jobbing customers who were involved, often without any fault of theirs, in a local price war. That such a move would be followed by others with similar contracts and that cutting would be encouraged as it would be at the expense of the refiner and not the local jobber. There are one or two refiners who give a sort of modified local protection but their contract provides for a very low margin below the tank wagon service station price. It is some years since the refiner has been called upon to make good his margins with his jobbers, even with a 5-cent below the service station contract. What a fine thing it would be to have a contract based on the local price and subject to local changes in that price, fine for the jobber but ruinous for the refiner. There are several prominent points today where the service station price has been cut 3 cents and the tank wagon left unchanged and it is from such points that the jobbers are asking for protection although the cut is local, not general or even statewide. So far as we know, none of the refiners has agreed to grant the protection asked.

The naming of the higer refinery prices by Group 3 refiners has not ironed out all the difficulties in the citation. Over in Detroit the prices are a little better but still much below the Group 3 basis. For the U. S. Motor gasoline, the price averages around 8½ cents Group 3, delivered, and some such prices prevail in eastern Michigan and some parts of Indiana. There is too much local refinery output around Detroit just as there is around Chicago. Locally the price is not 6¼ cents Group 3, although the larger refiners are asking that and holding to it. It is 6 cents or a little less depending on how bad some of the smaller plants need orders. All of our local plants today have pipe line connections which insures them an adequate supply of crude at the posted price and they seem able to operate on some unusually low prices at times, selling the local distributors, for the most part. The demand for Ethyl Gasoline continues very active with new converts among the oil industry almost daily. The higher gravities are in light demand. Natural gasoline has been in good demand for this market and the price has been close to 5½ cents for any grade.

The drought has continued to work against the sale of kerosene. Jobbers report that there is little fall plowing underway as the ground is too dry and in some cases they are asking that shipments on cars previously ordered be deferred until later in the month when they believe that rains must help the ground. This condition seems general for the same reason for delaying shipments has been advanced from the southern and the northern parts of the territory. There is no active movement in any direction and prices while somewhat higher judging by refiners' quotations are just about the same when the buyer comes to place an actual order.

Furnace Oil Shipments

The furnace oil business is improving, many distributors taking in their first shipments and delivering to their customers. This activity may be followed by a quiet period if the weather remains fairly warm and the oil in the consumers' tanks is not used. What would help the furnace oil business a lot would be a frosty spell with a considerable drop in temperature early in October to start consumption off right. A good start is of great importance in furnace oils as in most other matters. The distributors are for the most part buying on contracts based on published quotations so they are not greatly interested in the prices quoted by other sources of supply but there are some who buy in the spot market and they are not worried over the situation claiming there is enough fuel oil in storage to care for the needs of the industries and for the heating needs of the consumer.

Usually the consumer takes in a fill of gas oil or distillate early in October or in September and this fill may last him until the beginning of the new year if the weather is mild. From personal experience the average oil burner in a home in this climate will burn twice as much oil after the first of the year as before that time. During January and February the consumption is at the high rate but in March it begins to decline so that with many who burn 2,000 gal-

(Continued on Page 138)

CLASSIFIED

(Continued from Preceeding Page)

ADDRESSES WANTED

ANYONE KNOWING WHEREABOUTS of Fred B. Shields, welder, please notify Box 1006, Long Beach, Calif. at once. Wife and little girl in need. Mrs. F. B. Shields.

WANTED

WANTED: BULK PLANT, Central states, with or without filling stations; on lease, with purchase option. Minimum 75,000 gallons monthly. Proposition should have site for expansion, by independent operators skilled in manufacturing and sales. All replies acknowledged after October 15. Address Box E-279, The Oil and Gas Journal, Tulsa, Okla.

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Eastern Market Seems More Cheerful

Influenced by Curtailment in Refinery Runs and Declines in Gasoline Stocks. Hoped Price Shading Will Decrease

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Sept. 8.—Influenced by a further curtailment in refinery operations and additional substantial declines in gasoline stocks at refineries, the market has taken on a more cheerful appearance, and this has been reflected in an all but imperceptible stiffening in the undertone. While no possibility of a general increase in prices for refined products exists, it is evident the continued progress of the curtailment program in the refining branch has stiffened the morale of some of the weaker interests, and it is expected price shading will gradually decrease, notwithstanding the season of heaviest gasoline consumption is about at an end.

Consumption of motor fuel in East Coast territory is holding up to gratifying totals, refiners report, and a continuance of favorable weather well into the fall season will very substantially improve the market position in this area.

Some concern is expressed over dwindling export movement of refined products, and it is felt a continuance of lack of foreign buying of American refined products will force additional curtailment in refinery runs if the balance between consumption, stocks and production is to be further adjusted.

Reports from scattered sections of the country indicate a number of small refinery units will be shut down over the winter, with production to be centered at more modern plants. This, of course, will undoubtedly work for a betterment in the statistical position. The trend toward consolidation now so strongly evident is likewise expected to give further impetus to the move to balance stocks and consumption through curtailment in production of refined products until current surplus holdings have been greatly cut down.

Refinery Gasoline

While price cutting in this branch is by no means at an end, the situation appears to have shown some improvement and further gains are looked for. As a matter of fact, the current trend is just contrary to what many in the trade had looked for, and market sentiment in consequence has shown considerable improvement.

The posted price for U. S. Motor Gasoline at refineries in this area is held unchanged at 9 cents. Some sellers are still offering at 8¼ to 8½ cents, but it appears the stocks which had previously been available at 8 cents and fractionally under that figure have been pretty well liquidated, and competition under the 8¼-cent level is steadily dwindling.

Tank car movement has run considerably in excess of refiners' expectations. Warm and pleasant weather after the Labor Day holidays has been accompanied by continued heavy motoring, and the usual seasonal slackening in gasoline consumption which normally comes at this time has not yet made its appearance. Jobbers in most instances are still keeping their storage full, and withdrawals against standing orders are running into very substantial totals.

Tank car deliveries of premium grade fuels are also holding up well, current movement being considerably in excess of a year ago, according to reports from leading producers of the high-test motor fuels.

California and South American gasolines are being absorbed by East Coast consuming markets without visible disturbance to the market position in this area.

There has been no lessening of competition in the tank wagon market and the price structure is by no means settled. There have been no changes in "official" posted prices in this territory, but the service station division is still greatly disturbed and price cutting is more or less general in most sections.

Improvement in the refinery market is expected to make itself felt in the tank wagon division if primary markets continue to firm up. The fact that refinery holdings at the close of the past week, totaling 38,816,000 bbls., were off 16,184,000 bbls. from the year's high, in March, and were the lowest since the week ending December 7, 1929, when holdings aggregated 37,301,000 bbls., has tended to bring about a better feeling in marketing circles. However, it is emphasized, stocks of weaker interests will have to be further liquidated before the end of price competition through shading of posted quotations may be looked for in tank wagon marketing.

Marketers are taking advantage of the start of the fall season to emphasize their premium fuels, and some gain in demand for the higher quality gasolines is already evident. According to the comment of leading distributors, it is expected the percentage of premium gasoline in gallonage during the next six months will be the largest in history, notwithstanding disturbed economic conditions.

Kerosene

The posted price remains unaltered at 6¾ cents for 41-43 water white at the refineries, and, while this price is still being shaded, price cutting is by no means as general as even a week ago.

Demand has picked up substantially, and with the coming of cooler weather further impetus to consumption is looked for. Kerosene stoves are still used to a large extent for heating during the "in between" period intervening from the start of the fall season to the advent of weather sufficiently cold to warrant the starting up of furnaces, and jobbers are already stocking in anticipation of this demand.

Refiners are making determined efforts to adjust the stock position with respect to kerosene, and production has been curtailed for several months. July output totaled 3,929,000 bbls., against 4,026,000 bbls. in June, with stocks on hand July 31 for the country as a whole amounting to 8,319,000 bbls., against 8,797,000 bbls. on hand July 31, 1929.

The tank wagon kerosene market has taken on more activity and marketers are planning for a substantial widening of volume during the next few months. No change in tank wagon kerosene quotations have developed.

Lubs

Gallonage continues along curtailed lines in the cylinder oil market. The price cuts put into effect during the previous week failed to stimulate buying interest. A routine movement to domestic consumers is reported, and export trading so far as the open market is concerned is "flat." Several large integrated companies have made large shipments to foreign marketing subsidiaries during the past few weeks.

Red and pale oil sales have picked up a little as industrial activity quickens and prices are holding steady on these oils.

The lub oil market, from the statistical position, is still rather unfavorable. July output totaled 3,018,000 bbls., against 2,920,000 bbls. in June, with production for the first seven months of 1930 aggregating 21,043,000 bbls., against 20,159,000 bbls. in the same months last year. Domestic demand during the first seven months of the year amounted to but 13,104,000 bbls., against 14,230,000 bbls. in the same months last year, and stocks on hand July 31 were 9,953,000 bbls., against 7,524,000 bbls. on the same date last year.

Wax

The market has shown a fairly steady undertone, but volume of trading has been light on both crude scale and fully refined grades. Export buyers have not been active, and the domestic trade has likewise been operating on a hand-to-mouth basis.

The July report issued by the Department of Commerce during the week was rather bearish, showing production of 45,640,000 pounds of paraffin wax for July, compared with 43,620,000 pounds during the previous month. Output for the first seven months, however, was 353,920,000 pounds, against 375,928,000 pounds in the corresponding months last year. Domestic demand picked up slightly in July, but stocks on hand gained, totaling 254,999,000 pounds, against 249,748,000 pounds on June 30 and 191,298,000 pounds on July 31, last year.

Fuel Oil

A better movement was reported in the domestic market, and marine sales of bunker "C" were well maintained. Refiners continue to quote the market at $1.15 per barrel in bulk at refinery terminals. Cooler weather is expected to broaden domestic demand and the market outlook is a little better.

Gas and fuel oil output for the first seven months was 224,821,000 bbls., against 260,046,000 bbls. in the corresponding months last year, and stocks on hand July 31, although larger than at the close of the previous month, were nevertheless more than 1,000,000 bbls. under those held July 31, 1929.

Gas Oil

The market continued quoted at 5¼ cents as the posted basis, with prices on actual business ranging from that figure down to 4¾ cents in most instances, and an eighth cent lower in a few cases. Business was picking up, however, and with furnace oil deliveries scheduled to start within a few weeks, the market outlook is improved. Two prominent East Coast interests are reported to have bought several cargoes of straightrun gas oil in the California market, clearing the distressed stocks which had been depressing the Pacific Coast market for several weeks. This oil will be moved eastward as cracking stock and for delivery against furnace oil contracts, it is reported.

While gas manufacturing companies are experimenting with fuel oil in place of gas oil in their manufacturing operations, and the use of the heavier oil is increasing, gas oil sales still largely predominate for this purpose, and refiners do not anticipate any general swing to bunker "C" on the part of the large gas companies in the immediate future.

Diesel Oil

Spot oil remains held at $2 per barrel in bulk at refinery terminals in this area, and the bulk of the contract business is being done at the same level. Demand is well maintained, refiners report, and sales to date have shown satisfactory increases over comparable 1929 totals.

Refiners look for the continued maintenance of current quotations, notwithstanding an expected larger movement of California Diesel oil eastward.

Furnace Oil

Installations of domestic oil-burning units in Atlantic Coast territory have shown a material increase this fall under the stimulus of both lowered prices and installment sales.

Marketers report that the volume of contract business for furnace oil on their books as the new season gets under way is the largest on record in most instances, and new business continues to come in in satisfactory volume.

Prices for domestic heating oils in the eastern territory remain unaltered at the quotations set forth in last week's issue.

Gulf Export Market

The market was dull and featureless, no new inquiries being reported. Independent operators are complaining about the lack of gallonage, but it is evident the large integrated companies with established outlets abroad are experiencing the same dullness. According to the Department of Commerce compilation, gasoline exports for July amounted to but 5,598,000 bbls., a sharp falling-off from the 7,126,000 bbls. exported during the previous month. Export movement for the first seven months, however, continued well ahead of that for the comparable months of 1929, aggregating 39,763,000 bbls., against 35,036,000 bbls. for the same months last year.

Kerosene export movement continues to lose ground, shipments to foreign markets thus far in the year running behind those for the comparable period of 1929. July exports were 1,034,000 bbls., against 1,796,000 bbls. in June, but exports for the first seven months amounted to but 10,194,000 bbls., against 11,606,000 bbls. in the same period last year.

Export operators look for an early revival in trading at the Gulf, but it appears generally felt among the independent interests that lower prices will have to be quoted at United States Gulf ports if the domestic industry is to compete successfully with refiners in Russia, Rumania and other foreign producing countries, many of which enjoy an initial advantage over United States refiners through closer proximity to consuming markets and resultant freight savings.

There were no developments of general interest in the Venezuelan and Mexican crude oil markets, little inquiry being heard and no cargo fixtures being reported in the open market. Contract deliveries are taking care of all the Venezuelan production in excess of the refinery requirements of principal producers, it is stated, and the same general situation prevails in Mexico.

Petroleum Exports

Notwithstanding recent quiet in the spot market here there was a substantial increase in export movement of refined petroleum products from the local port during the week ended August 30, most of the gain being attributed to heavier shipments against contracts previously entered. New business in the local market continued of small amount, although operators reported a slight increase from Europe and South America, and were optimistic regarding an early pickup in actual buying. It is generally felt that the disturbed position of the domestic market, from the price standpoint, will militate against any heavy buying movement on the part of foreign operators.

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Aug. 30	Aug. 23	Aug. 16
Gasoline	55,000	480,000	470,000
Naphtha	530,000	.. ....	920,000
Kerosene	500,000	25,000	400,000
Fuel oil	120,000	48,000	20,000
Lubricating oil	3,485,000	950,000	2,180,000
Petroleum, refined	360,000	400,000	575,000
	Pounds		
Petrolatum	.....	12,000	.....
Paraffin wax	1,100,000	510,000	790,000
Refined	420,000	15,000	25,000
Scale	230,000	140,000	390,000
Lubricating grease	875,000	540,000	790,000

There were two exceptionally heavy shipments of lubricating oil during the

week ended August 30, one of more than 1,000,000 gallons on the Winnebago (Anglo-American Oil Co.) to London and Avonmouth, and the other of more than 1,290,000 gallons on the General Gassouin (Societe Auxiliare De Transports) to Dunkirk or Rouen.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended August 30 totaled 1,878,000 bbls., a daily average of 268,285 bbls., compared with 2,319,000 bbls., a daily average of 331,286 bbls. for the previous week, and a daily average of 275,036 bbls. for the four weeks ended August 30. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	359,000
New York	844,000
Philadelphia	196,000
Others	271,000
Total	1,670,000
Daily average	238,571
At Gulf Coast ports—	
New Orleans and Baton Rouge	98,000
Port Arthur and Sabine district	95,000
Tampa	15,000
Total	208,000
Daily average	29,714
At all United States ports—	
Total	1,878,000
Daily average	268,285
Daily average four weeks	275,036

Distribution of total imports is as follows:

Crude petroleum	1,056,000
Gasoline	560,000
Fuel oil	262,000

Trade interests are not looking for much tapering off in the import movement of gasoline, notwithstanding the end of the peak consumption period for motor fuel. South American interests active in gasoline sales in this country have developed extensive outlets for their product, and it is believed that import movement not only will not show a seasonable decrease, but that shipments will continue to run far in excess of comparable totals for last year.

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended August 30 totaled 512,000 bbls., a daily average of 73,143 bbls., compared with 497,000 bbls., a daily average of 71,000 bbls., for the previous week and a daily average of 80,679 bbls. for the four weeks ended August 30. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	79,000
New York	320,000
Philadelphia	113,000
Total	512,000
Daily average	73,143
At Gulf Coast ports—	
All ports	None
At Atlantic and Gulf Coast ports—	
Total	512,000
Daily average	73,143
Daily average four weeks	80,679

Distribution of total California receipts is as follows:

Gasoline	512,000

Shipments of refined products from the Pacific Coast for Atlantic and Gulf Coast ports during the week ended August 30 (with identity of owner of tanker moving the oil where such owner of record is an oil company) were as follows:

To New York—145,500 bbls. of gasoline on the Australia and 78,800 bbls. of gasoline on the Thomas H. Wheeler (Standard Shipping Co.-S.O.N.J.).

To Chester, Pa.—115,000 bbls. of gasoline on the Chester Sun (Sun Oil Co.).

To Baltimore—81,000 bbls. of gasoline on the L. C. White (Pan American Petroleum & Transport Co.).

To Houston and Port Arthur—72,000 bbls. of gasoline on the Illinois (The Texas Company).

To Everett, Mass.—70,000 bbls. of fuel oil on the Oregon.

To Philadelphia—95,800 bbls. of gasoline and 20,000 bbls. of petroleum solvent on the Sunoil (Sun Oil Co.).

CONSUMPTION CUT IN CHICAGO BY WEATHER

(Continued from Page 136)

lons a year, at least 1,000 gallons is consumed during the severe weather of January and February running over into the first part of March. So that the distributors have a rather quiet time after their first fills are delivered practically all the oil needed going to late buyers or to those with small tanks. There is no real change in prices. The distillate sells at 2¾ cents for a fair product up to 3 cents for a prime white distillate. Gas oil sells to the trade at 2¼ cents for a dark, zero oil up to 2¾ cents for a straw gas oil. The demand for the light fuel oils is fairly good right now and quite a number of public buildings, hotels and apartment houses are supplying a little heat when the nights are cool. Regarding future prices for desirable oils for heating, there is a feeling that the present quotations may seem low if the weather is at all severe early in the season. One of the chief sources of supply for this market states it is not storing any fuel oil but is just shipping out as customers require. It has a great number of contracts for both the domestic burner and the industrial fuel oil which it claims will leave it only an occasional car even at the present time for other than its contract customers. There is an evident tendency to hold for higher prices with some refiners especially those of limited outlet.

Industrial Fuels

In the industrial fuels, the demand has shown some improvement, at least the number of inquiries has been larger but the buyers are just as hard to sell as they have been for some months back. Some of these inquiries are from those who use the oil wholly for heating but a fair number are from industries which are resuming operations or increasing their output. The industrial demand is not good yet. The fuel oil trade is rather hopeful of the coming season but quite as much on account of the use of oil for heating as for power.

The local refiners would like to sell a lot of heavy fuel oil really heavy oil with a gravity of around 6 degrees and a viscosity correspondingly high. It is one of those things which accumulate around refineries like coke. The Empire refinery is making a great effort to sell its coke right now and is meeting with considerable success selling to the coal trade for domestic consumption. It is evidently easier to sell this refinery coke than it is to sell the heavy fuel oils. The trouble is that there are so few concerns which are fitted to use the heavy products, but these concerns enjoy a very cheap fuel. The next lighter fuel oils ranging around 12 to 14 gravity are salable if the viscosity is not too high at prices which range around 35 to 40 cents Group 3. Continuing their tendency to run heavier oils some of the refiners now have 16-20 gravity instead of 18-22 gravity. It makes little difference so long as the viscosity is not too high. The industrial demand is for oils with a gravity from 16 to 22 degrees, zero or at least with a low cold test, sulphur content not too high and with a low viscosity. These oils are selling here at from 42½ cents to 50 cents depending on the specifications. The 22-26 or the 24-26 sells to the industries in a limited way but the chief consumers are those who use the oil for heating. From this gravity upward the fuel oils are used for domestic fuels or for some special purpose which requires a limited quantity of the light gravity oil.

Some of the refiners look for higher prices for the desirable oils at least with the coming of cold weather. Others do not believe there will be any material advance except in certain specialties such as the 28-30 zero oil and in this only if the weather is colder than last winter. Some refiners here have a bunch of contracts which call for 60 cents a barrel as the minimum price for their 18-22 gravity fuel oil. The market will have to advance say an average of 15 cents a barrel to make the holders of these contracts take out the oil. It is to be hoped the fuel oil season may turn out to be a more profitable season for the refiner than the gasoline season has been.

Gas Oil

Gas makers' oil of the full U.G.I. specifications is seemingly firmly held at 2 cents to buy. Yet somehow or another utility concerns report the purchase of this oil at 1⅞ cents and the wonder is where do they get it? The probability is that some local plant with differential freight rates has made a concession. The Shell Petroleum Corp. is asking, according to its Chicago office, 2⅛ cents and this is the only refiner here that has straightrun gas oil to sell according to the management of these refineries. The usual quotation to large buyers is 2⅛ cents and to smaller accounts 2¼ cents. There is some 30-32 gas oil and some which has strong odor which is selling for slightly less than 2 cents per gallon Group 3, say at 1¾ to 1⅞ cents. The zero gas oil is firmly held at prevailing prices as previously stated.

Lub Oils

There is little demand for motor oils and lubricants. Some jobbers have ordered in a little winter oils and several inquiries have been made regarding the approaching season but there is more or less indifference manifested regarding the purchase of lubricating oils for motors by the jobbing trade. They are buying what they need and nothing more. The industrial demand is quiet. Refinery stocks are moving very slowly and prices are rather ragged.

Tank Wagon Outlook

The chief subject of interest to the jobber, and the refinery, too, for that matter, is that of a tank wagon cut. Some argue that having held the prices so long there need be no hurry in reducing these prices. It is significant that the cuts are coming more numerously and in the larger points since the first of the month and Labor Day. If the refiners succeed in advancing their tank car prices to the point where the jobber cannot cut prices without some loss, the tank wagon reduction might be avoided. One hears many rumors of tank wagon cuts and of crude declines, none with any authority back of them, yet given with the assurance of facts. When either crude or tank wagon reductions are made the trade will know about it, up to which time all is idle speculation.

KANSAS FIELDS

(Continued from Page 44)

a rig. Breech and others' No. 1 Cutler, NE cor. NW NW, Section 5-26-11, is a location. Simmons and others' No. 1-B Greenwood, SW cor. NW SE, Section 19-22-11, is dry and abandoned at 2,201 feet. No. 3 Winegar, NW cor. NE SW, Section 27-23-11, is dry and abandoned at 1,995 feet. The Prairie Oil & Gas Co.'s No. 7 Newhouse, C NE NE, Section 1-24-11, made 250 bbls. in sand 1,746-1,804 feet, total depth 1,814 feet. Derby Oil Co.'s No. 1-C Beavers, NE cor. SE SW, Section 25-24-12, made 1,500,000 feet of gas in sand 1,590-1,618 feet. Kansan Oil Corp.'s No. 1 Stanhope, NE cor. NW NE, Section 18-26-9, is dry and abandoned at 2,360 feet.

Franklin County

Empire Oil & Refining Co.'s No. 1 Brown, C SE SE, Section 34-15-18, is spudding.

Marion County

Youker and Phillips Petroleum Co.'s No. 1 Riffel, NW cor. NW, Section 14-17-4, is drilling at 1,675 feet. Empire Oil & Refining Co.'s No. 1 Heibert, SE cor. SW SE, Section 20-20-2, is dry and abandoned in lime 3,045-50 feet. National Refining Co.'s No. 17 Reamey, CSL SE, Section 17-21-4, made 180 bbls. in chat 2,408-09 feet.

Morris County

General Utilities Co.'s No. 1 Swan, NW cor. SW SW, Section 14-17-7, made 500,000 feet of gas in sand 1,280-1,300 feet.

Morton County

Argus Production Co.'s No. 1 Garner, C SE, Section 18-33-39w, made 8,000,000 feet of gas in sand 2,595-2,689 feet. No. 2 Dreibelbis, C NW, Section 9-34-39w, has been completed for 12,000,000 feet of gas in sand 2,640-2,790 feet. No. 1 Tillett, C SW, Section 21-34-39w, made 8,000,000 feet of gas in sand 2,585-2,802 feet. No. 1 Watson, C NW, Section 27-34-40w, made 3,500,000 feet of gas in sand 2,588-2,689 feet.

McPherson County

Gypsy Oil Co.'s No. 1 Stuckey, SE cor. NE, Section 33-20-3w, has been completed for 520 bbls. in sand 3,406-16 feet, total depth 3,424 feet.

Rice County

Lee and Shell Petroleum Corp.'s No. 1 Sledd Farm Corp., C SW, Section 33-19-6w, has been abandoned at 3,588 feet.

Russell County

Empire Oil & Refining Co. and Indian Territory Illuminating Oil Co.'s No. 1-B Dillner, NE cor. NE, Section 35-13-15w, is a location. Empire Oil & Refining Co.'s No. 1 Herbel, NW cor. NE SW, Section 26-14-14w, has been abandoned at 3,323 feet.

Sedgwick County

Liggett and others' No. 1 Loper, NW cor. SW SE, Section 4-25-1w, is an old well drilled deeper and abandoned at 1,980 feet. Fisher & Lauck's No. 3 Trustee, NE cor. NW SE, Section 19-27-2, has been completed for 1,000 bbls. in chat 2,964-75 feet. No. 1 Shaffer, NE cor. SE NW, Section 30-27-2, is an old well drilled deeper and completed for 404 bbls. in sand 2,969-70 feet. Magnolia Petroleum Co.'s No. 1 Anderson, NE cor. NW SW, Section 18-26-1, has been abandoned at 3,522 feet.

Stevens County

Argus Production Co.'s No. 1 Sullivan, C SW, Section 34-32-39w, is drilling at 554 feet. No. 1 Fee, C SW, Section 21-32-38w, is a location. No. 2 Fee, C NW, Section 26-32-38w, is a location. No. 1 Porter, C SW, Section 9-32-37w, is a location. Staked location for No. 3 Ratcliff, C SW, Section 8-33-38w. No. 1 Jester, C NW, Section 7-34-36w, is a location. Have staked location for No. 1 Burrows, C SW, Section 31-34-37w. Rosenthal and Pioneer Petroleum Co.'s No. 1 Beavers, C NW, Section 1-35-38w, is a rig. Harbendorf and others' No. 1 Persinger, C SE, Section 22-31-38w, made 6,115,000 feet of gas in sand 2,495-2,620 feet, total depth 2,670 feet. Missouri-Kansas Gas Co. and others' No. 1 Gregory, C NW, Section 19-33-38w, made 5,000,000 feet of gas in sand 2,545-2,692 feet. No. 1 Crawford, C NE, Section 32-33-37w, made 8,000,000 feet of gas in sand 2,620-2,770 feet, total depth 2,803 feet. Argus Production Co.'s No. 1 Sibon, C NE, Section 2-34-39w, has been completed for 14,000,000 feet of gas in sand 2,605-2,762 feet. No. 1 Fee, C NE, Section 15-34-39w, has been completed for 9,000,000 feet of gas in sand 2,585-2,705 feet, total depth 2,789 feet. No. 1 Schaffer, C SE, Section 6-35-38w, made 4,380,000 feet of gas in sand 2,610-2,795 feet, total depth 2,835 feet. Trees Oil Co.'s No. 1 Kraemer, C NW, Section 2-35-39w, has been completed for 7,750,000 feet of gas in sand 2,625-2,705 feet, total depth 2,710 feet. Argus Production Co.'s No. 1 Johnson, C SW, Section 13-35-39w, has been completed for 1,152,000 feet of gas in sand 2,655-2,845 feet, total depth 2,874 feet.

Sumner County

Sunray Oil Co.'s No. 1 Neal, SE cor. SE, Section 29-31-1w, made 117 bbls. in lime 3,675-3,700 feet.

Woodson County

Lewis and others' No. 1 Dyer, SW cor. SW, Section 25-23-13, is dry and abandoned in lime 1,798 feet.

E. F. COOK DIES

Ernest F. Cook, former secretary of the Union Tank Co., New York, died at his home in Asbury Park, N. J., after a long illness. He was 60 years old. Mr. Cook at an early age started to work with the Standard Oil Co., with which he was connected up to his retirement five years ago.

PRAIRIE PIPE LINE STATEMENT

The Prairie Pipe Line Co.'s crude oil shipments for the month of August were 5,324,834.6 bbls., a daily average of 171,769 bbls. per day. This is a considerable increase over the July business which averaged 155,200 bbls. per day, or a total of 4,811,206.02 bbls. for the month.

Manufacture of Natural Gasoline

VENICE WILL INCREASE CALIFORNIA PRODUCTION

LOS ANGELES, Calif., Sept. 6.—The Venice oil field development will probably add materially to the natural gasoline production in California within the next few months.

There is need at present of additional plant capacity to handle the casinghead gas available from producing wells. The plant of the Del Rey Oil & Refining Co. will handle 10,000,000 feet of gas. The plant of the Ohio Oil Co. is already operating at its capacity of 6,000,000 feet.

The Mohawk Petroleum Co. has started the construction of an absorption plant on the Zobelein property just east of the Venice Field.

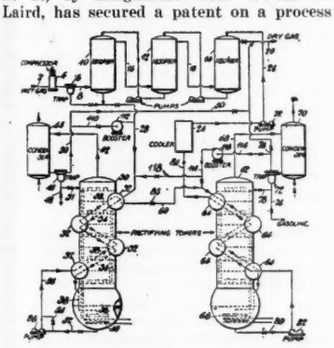
REVISED I.C.C. RULES IN EFFECT NEXT MONTH

The Interstate Commerce Commission has revised its regulations covering the transportation of explosives and other dangerous articles in freight, express and baggage service. These regulations become effective October 1, 1930. The Bureau of Explosives will arrange, as heretofore, to publish these regulations in various forms. The freight tariff, which shows only the regulations as pertaining to freight service, together with shipping container specifications, is now available.

The complete regulations as affecting freight, express and baggage service, together with shipping container specifications, will be published in what is known at B. E. Pamphlet No. 9, which is the pocket size. Inquiries should be addressed to the Bureau of Explosives, 30 Vesey Street, New York City.

SECURE PATENT ON NEW METHOD OF PROCESSING

The Heat Treating Co. of New York, N. Y., by assignment from Wilbur G. Laird, has secured a patent on a process



for recovering natural gasoline. The patent was filed June 10, 1927, Serial No. 197,784, with 11 claims.

The process is described as follows: "The process of recovering natural gasoline hydrocarbons from a liquid absorbing medium containing absorbed gasoline and nongasoline hydrocarbons, which comprises passing the charged absorbing medium through a series of heating zones of increasing temperature in which the charged medium is heated and portions of the absorbed constituents vaporized, passing the vapors formed in said zones forward and in intimate contact with the unvaporized material, separating the vapors from the unvaporized material in a zone maintained at a predetermined temperature adapted to insure vaporization of substantially all of the nongasoline hydrocarbons, further heating the medium containing substantially only the gasoline hydrocarbons in a separate zone to vaporize the latter, and rectifying the gasoline hydrocarbons to produce a suitable gasoline product."

Who's Who
IN NATURAL GASOLINE MANUFACTURE

VICTOR GASOLINE CO.

The Victor Gasoline Co. of Texas is one of the few remaining concerns whose activities are devoted exclusively to the manufacture of natural gasoline. The company through contracts with producers secures the casinghead gas and sells its products to refiners and other buyers through its own sales department.

The company last year had a large production due to the several plants which it operated in the Greater Seminole area. Due to the reduced gas supplies, this production has declined this year.

M. F. Powers, who has been actively connected with the Mid-Continent natural gasoline industry for many years, is in charge of all operations. Mr. Powers is also general manager for the Chestnut & Smith Corp., manufacturers and marketers of natural gasoline.

Following is a list of the Victor plants:

Location—	Daily capacity gallons
Sec. 8-17-7	3,200
Sec. 27-16-9	6,000
Sec. 8-16-8	1,300
Sec. 3-14-5	1,100
Sec. 24-22-4	900
Sec. 10-9-6	1,500
Sec. 10-8-6	14,000
Sec. 11-9-5	1,500
Sec. 5-7-7	18,000

MOVE SIGNAL OFFICES

LOS ANGELES, Calif., Sept. 6.—Signal Oil & Gas Co. has moved into its new quarters, occupying the top two and a half floors of the Signal Building located at 811 West Seventh Street, where extensive alterations have been made to accommodate the various departments of the company, as well as provide for future growth and expansion.

REFINERY UTILIZATION GAINING MORE RAPIDLY THAN PRODUCTION

Refinery utilization of natural gasoline is increasing more rapidly than the production by manufacturers according to government reports covering operations for the first seven months of this year.

According to the latest available data of the Bureau of Mines, the production of natural gasoline in the United States for the first seven months totaled 30,683,000 bbls. This represented an increase of 1,366,000 bbls. or 4.7 per cent over the same period last year.

In the consuming end, petroleum refiners used 26,661,000 bbls. the first seven months of this year which compares with the 24,617,000 bbls. required by refiners the first seven months of 1929. This increase of 2,044,000 bbls. or 8 per cent in refinery requirements is thus greater than the increase in production. This situation no doubt accounts for the fact that prices on natural gasoline have been more satisfactory than those on refinery gasolines. The small increase in production is accounted for by the proration agreements in the production of crude oil.

As shown in the accompanying table which summarizes the government reports for the first seven months of 1930 and 1929, most refinery groups have been using more natural gasoline this year than last. The exceptions to the rule are the East Coast, Appalachian and the Louisiana Gulf Coast.

The East Coast and the Appalachian refiners are farthest removed from the sources of supply of natural gasolines and since this means higher delivered prices, this in part accounts for the decline in shipments. In the case of the Louisiana Gulf Coast the fact that the Sinclair Refining Co. of Louisiana shut down its refinery at Meraux, La., early in the year and increased its shipments to its Houston, Tex., refinery no doubt is largely responsible for the decrease.

The Texas Gulf Coast refiners have increased in importance as sources of supply for export and coastwise movement and natural gasoline shipments which formerly went to the Louisiana Gulf Coast or the East Coast now move to the Texas refineries and terminals.

The Oklahoma and Kansas refiners increased their use of natural gasoline more than 30 per cent the first seven months, the reports showing a total of 2,878,000 bbls. California refiners increased from 9,555,000 bbls. the first seven months of 1929 to 10,174,000 bbls. for the same period this year. Texas Gulf refiners with an increase of more than 1,000,000 bbls. required 5,214,000 bbls. of natural gasoline between January 1 and August 1 of this year.

Outlines Gasoline Specifications for Use in Airplanes

Natural gasoline manufacturers were interested in the statements of E. W. McVitty, of the Pan American Airways, Inc., as he discussed aviation fuels before the meeting of the Society of Automotive Engineers in Chicago last week. After several years of trials under weather conditions existing over the company's routes in North and South America, the Pan American Airways has established the following motor fuel specifications which use the present government's specifications on domestic aviation gasoline as the basis. The gum content of the gasoline has been revised to allow 10 milligrams instead of 3 milligrams because of the extremely unfavorable conditions under which some of this is stored in the tropics. In addition, it is required that the knock rating shall not be greater than 5 on the Standard Oil Co. of New Jersey's scale. In discussing the distillation range of the fuel required Mr. McVitty said:

"The distillation range required lies somewheres between that for fighting grade gasoline and domestic grade. It is as follows:

"Distillation range (A.S.T.M. uncorrected).

"Initial, minimum 105° F., maximum 120° F.

"Five per cent, maximum 155° F.

"Fifty per cent, maximum 212° F.

"Endpoint, maximum 335° F.

"Recovery, 97 per cent minimum.

"The Pan American Airways distillation specifications were drawn up before the significance of the 10 and 90 per cent points and the insignificance of the initial and endpoints were generally realized. It should be emphasized, however, that the foregoing specifications on distillation represent gasoline which has been found entirely satisfactory, over a long period of operation. The company realizes the inadequacy of its distillation specifications, but does not wish to change them until it is sure of the exact specifications which would best suit its requirements. A great deal of research work has been done on volatility specifications, and much work on correlating such specifications with service performance in automobiles, but very little

(Continued on Page 153)

SEEK FRANCHISE

SAN FRANCISCO, Calif., Sept. 6.—The Natural Gas Corp. of California, subsidiary of the Pacific Public Service Corp., has applied to the State Railroad Commission for a certificate authorizing it to exercise franchise rights for service of liquefied natural gas in Victorville, San Bernardino County.

REFINERY UTILIZATION OF NATURAL GASOLINE

(Data in thousands of barrels)

	East Coast	Appalachian	Ind.-Ill.-Ky.	Okla.-Kans.	Texas	La.-Ark.	Rocky Mts.	Calif.	Texas Gulf	La. Gulf	Total
1930											
Jan.	254	60	297	366	841	431	66	1,423	662	314	3,758
Feb.	272	46	209	371	809	446	119	1,251	598	338	3,523
Mar.	191	35	206	455	932	413	142	1,279	710	275	3,653
Apr.	217	35	221	462	1,089	288	137	1,439	859	254	3,988
May	138	40	211	386	1,045	389	124	1,352	800	260	3,685
June	134	44	209	375	1,019	317	126	1,655	792	220	3,879
July	147	54	231	463	1,055	320	130	1,775	793	210	4,175
Total	1,353	314	1,584	2,878	6,790	2,704	864	10,174	5,214	1,871	26,661
1929											
Jan.	218	76	188	300	696	475	95	1,182	593	373	3,230
Feb.	340	61	143	254	671	438	105	1,014	570	343	3,026
Mar.	177	50	161	281	858	668	129	1,414	731	552	3,738
Apr.	288	35	163	290	776	565	127	1,358	640	460	3,602
May	231	31	176	314	761	631	135	1,389	603	505	3,668
June	85	46	190	350	686	558	130	1,503	530	433	3,548
July	91	48	278	398	679	546	130	1,695	521	404	3,805
Total	1,430	347	1,239	2,187	5,127	3,881	851	9,555	4,188	3,070	24,617

Brief Items for Petroleum Refiners

REFINING IN OKLAHOMA CITY FIELD EXPANDING

The assurance of an adequate supply of sweet crude for some time in the future has prompted the building of a number of small refineries in the Oklahoma City area. At present there are six plants operating or under construction. The combined capacity of these is approximately 15,000 bbls. daily.

Three refineries are now operating including the Black Gold Refining Co. plant of 1,500 bbls. capacity, the Electrol Refining Co. of 2,000 bbls. capacity and the Capitol City Refining Co. plant of 2,500 bbls. capacity. However, these are running considerably less oil than their capacities, the September average daily schedules being established at 650 bbls. for the Black Gold refinery, 500 bbls. for the Electrol and 200 bbls. for the Capitol City refinery.

The 3,000-bbl. refinery, built by Peacock and Peeveta is practically completed and test runs are in progress. No definite schedule of runs has been announced but normal operation will probably be under way before the end of the month. The Gulf States Corp. has practically completed remodeling its plant in this field also. It will have a capacity of 3,000 bbls. This plant will operate under the same management as the White Oak Refining Co., which has an 8,000-bbl. plant at Allen, Okla.

The other plant nearing completion belongs to the D. M. Crump Refineries, Inc. It will have a capacity of 3,000 bbls. and will be ready for operation within the next 45 to 60 days.

Practically all of these plants have installed equipment for the manufacture of steam refined cylinder stocks, taking advantage of the light green color of the residuum produced from the local crude. Some companies also expect to establish service stations to handle a portion of their gasoline production locally.

Sales for the operating plants are being handled through their Oklahoma City offices. D. A. Corcoran, president of the Black Gold Refining Co., is handling the sales for that company; C. C. Calvert, formerly sales manager for the Rock Island Refining Co., is managing sales for the Electrol Refining Co., and Jack Travis, formerly of Duncan, Okla., and well known in refining circles, is manager of the Capitol City refining Co.

VISITS CHICAGO OFFICE

CHICAGO, Sept. 6.—H. F. Carpenter, vice president and general manager of the Lincoln Oil & Refining Co., Robinson, Ill., has been in the city visiting the office of the Mid-Kansas Oil & Gas Co., formerly the Transcontinental Oil Co. This company is now a subsidiary of the Ohio Oil Co., as is the Lincoln Refining Co.

BURNHAM PLANT DAMAGED

CHICAGO, Sept. 6.—The distributing plant know as the Burnham Refining Co., located at Burnham, an outlying portion of Hammond, Ind., was destroyed by fire last week. Several tanks containing gasoline and some lubricating oils were destroyed. There was no refinery involved in this fire.

AWARD FUEL CONTRACTS

CHICAGO, Sept. 8.—The Standard Oil Co. of Indiana and the Gustafson Brothers Co. were the successful bidders to supply the Chicago sanitary district with fuel oil. The Standard of Indiana bid 3.12 cents per gallon on 600,000 gallons to be delivered to the north side plant and the Gustafson Brothers Co. bid 3.012 cents for a like quantity to be delivered to the south side plant.

PROMINENT SPEAKERS ON PROGRAM OF N.P.A. MEET AT ATLANTIC CITY

Hydrogenation, aviation, marketing and petroleum economics are among the subjects which will be discussed at the annual meeting of the National Petroleum Association which will be held at the Hotel Traymore, Atlantic City, N. J., September 17, 18 and 19.

The annual program which was prepared by O. P. Keeney, Keeney Oil Co.; P. S. Tarbox, Independent Refining Co.; A. M. Maxwell, Standard Oil Co. of Ohio; C. G. Sheffield, Standard Oil Co. of New Jersey and Irving Shearer, Standard Oil Co. of New Jersey, is complete for the three days including the annual banquet which will be held at the Shelburne Hotel on Thursday evening, September 18.

On Thursday at luncheon the members of the association will be the guests of the Sinclair Refining Co. at the Sea View Golf Club.

Fayette B. Dow, general counsel of the association in charge of the Washington office has the following to say regarding the speakers for the three days:

"Aviation—Four outstanding men will give you new facts and a new vision of what is before us in the further conquest of the air.

"On Wednesday, Col. Clarence M. Young, Assistant Secretary of the Department of Commerce, in charge of the division of aeronautics, will present the Government's program and plans. His subject is 'Air Transportation and the Nation.' E. V. Rickenbacker, noted ace of our air forces in the war, now vice president of the Fokker Aircraft Corp., will give you something to think about for many a day in his address on 'Transportation by Land, Water and Air.' On Thursday, Col. Paul Henderson, senior vice president, National Air Transport Co., Inc., will bring this important subject closely home in his discussion of 'Air Transport and the Oil Industry.' On Friday, Guy W. Vaughn, president, Wright Aeronautical Corp., will give the oil industry the viewpoints of the manufacturer of engines and planes.

"Hydrogenation—This process has been the subject of more newspaper comment than any new manufacturing development in recent years. Yet comparatively little is known about it. The statement has been made that it will revolutionize the refining of oil. Do you know whether it will or not? The first opportunity for the oil industry to get first hand, detailed information will be at this meeting. R. T. Haslam, manager of the Standard Development Co., will present the subject and will answer questions.

"Marketing—The marketing of petroleum products is always a timely subject, never more so than at this time. Rapid developments in distribution are apparent everywhere. We are to hear the views of R. B. Kahle, president of the Beacon Oil Co., who appears on our program for the first time.

"Petroleum Economics—One of the ablest and most experienced of the petroleum economists is Joseph E. Pogue, a member of the committee on petroleum economics which made a report last April for the Federal Oil Conservation Board. Mr. Pogue has addressed us several times. His studies of the economic situation have always evidenced sound thinking. We need sound thinking, followed by action, if the industry's house is to be put in order. At this meeting his subject will be 'The High Cost of Gasoline in Storage.'

"There will be other addresses which you will want to hear. From our association family there will be an address by President E. M. Lyons, who has a way of stating our accomplishments with a winning modesty. H. L. Lohnes, from the staff of the Washington office, will give you something new when he speaks on 'Oil and the Radio.' As in more recent years there will be no 'reports' of the association's departments. This information reaches the members from time to time in our bulletins but we shall, of course, have a report from the treasurer, Guy Hunter. There are few treasurers who can make such a favorable impression with such a small bank balance."

BUYS REFINERY SITE AT HUNTINGTON BEACH

LOS ANGELES, Calif., Sept. 6.—The Superior Oil Co., a large independent producer of crude oil in this State has purchased approximately 14 acres of land at Huntington Beach for the purpose of constructing a refinery. Residents of the city near the refinery site are opposing the building of the plant which is several blocks from the ocean and only four blocks from the business section. The city council has not yet acted on the request for a permit.

SHELL SELLS COCA COLA

HOUSTON, Tex., Sept. 5.—The Shell Petroleum Corp. in full page advertisements appearing in local papers has announced that Coca Cola will be available to customers at the company's service stations. The advertisements state in part:

"Drive in today at the nearest yellow and red Shell service station. While your car is being checked from bumper to spare for what it needs—refresh yourself with a tingling, ice cold Coca Cola."

SMALL PLANT IN PANHANDLE

The Huber Refining Co. has practically completed the construction of a small refinery near Pampa, Tex., in the Texas Panhandle. The company is owned by the J. M. Huber Corp. large manufacturers of carbon black in Texas and Louisiana. The same interests operate natural gasoline plants in the two states.

In connection with their operation of gas wells the Huber interests have a small crude oil production in the Texas Panhandle. The skimming plant which was built on the site formerly owned by the Amarillo Producers & Refiners Corp. will have capacity to refine several hundred barrels of crude oil daily. The plant was acquired from the Navajo Refining Co.

COSTE USED STANAVO FUEL

Stanavo aviation gasoline was used by Dieudonne Coste and Maurice Bellonte on their nonstop flight from Paris to New York. This gasoline was also used by Coste on the world's record distance flight from Paris to Manchuria.

The product is the result of the pooling of research work on the part of the Standard Oil Co. of New Jersey, the Standard Oil Co. of Indiana and the Standard Oil Co. of California under the Stanavo board. This group has also standardized on several grades of aviation lubricants and is constantly giving their attention to aviation developments with respect to the effect of these changes on new requirements in fuels and lubricants.

New Form of Contract Tried by California Independent Refiners

LOS ANGELES, Calif., Sept. 6.—Because of the wide disparity which has many times existed between the price of crude and refined oils, several independent refiners have begun using a new form of contract which co-ordinates the price for crude oil with the average market price prevailing in California for U. S. Motor gasoline. All of the major companies are still adhering to the standard form and following the usual policy of buying crude oil on a gravity basis in accordance with published price schedules covering each field, although up to the present time none of the large companies have posted a price schedule for Playa Del Rey or making any attempt to buy the crude because of the sulphur content. This practice has not been particularly advantageous to independent refiners who rely entirely on crude oil purchases, especially when the price range between crude and refined oils is relatively small.

It is the consensus of opinion among refiners using the new method of co-ordinating crude oil and gasoline prices that it is basically sound in as much as the price of crude oil should be dependent upon the price received for gasoline. The Edington Witz Refining Co. and the

(Continued on Page 152)

PURE BUYS PLANT SITE FROM STANDARD OF OHIO

TOLEDO, Ohio, Sept. 6.—The Pure Oil Co. has started construction work on its new refinery announced the first of the month. The company has purchased an 80-acre tract from the Standard Oil Co. of Ohio which operated a refinery here several years ago.

The Pure site is on the Maumee Bay, adjoining the $7,000,000 terminal recently completed by the Chesapeake & Ohio Railroad. The company will use the Standard's marine now being constructed. Later the Pure company will build its own dock to serve Great Lakes freighters and tankers.

The initial crude oil capacity of the refinery as previously announced will be around 6,000 bbls. daily. Three units of Gyro cracking process are to be constructed immediately.

Other refiners in this area are active. The Sun Oil Co. has started loading tankers with refined products from its plant for delivery to lake ports. The Gulf Refining Co. will start the reconstruction and enlargement program at the Paragon refinery some time this month.

SPENCER TO MARKET FUEL

CHICAGO, Sept. 8.—The Spencer Petroleum Co., Chicago, large tank car dealers in fuel oils, has arranged to engage in the distribution of furnace oils in this city. It will specialize on distillates and straw gas oils, no dark oils being handled.

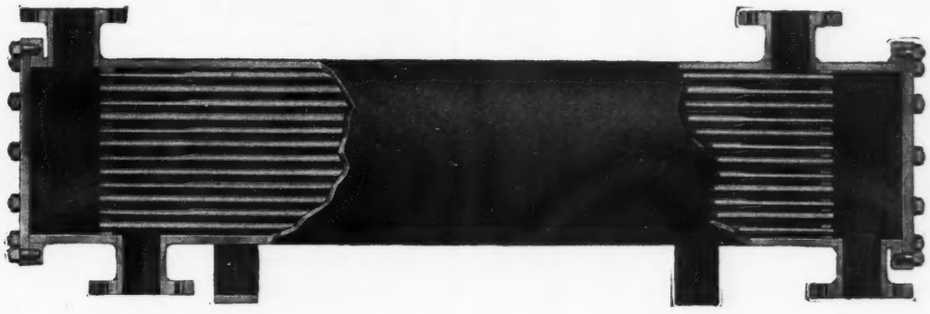
C. G. McMinn, recently of Jewett & Sowers, will be in charge. The bulk plant will be on West Grand Avenue, near Cicero Avenue. Trucks have been bought and they will begin business at the opening of the furnace oil season.

LAUDI TRANSFERRED TO CHICAGO

CHICAGO, Sept. 6.—H. T. Laudi of the tank car sales department, Shell Petroleum Corp., St. Louis, has been transferred from St. Louis to the Chicago office where he becomes assistant to Fred Nation, manager of tank car sales at the Chicago office.

A New Heat Exchanger With Many Important Advantages

Booths 42-43
Oklahoma Bldg.



The G-R Equaflo Exchanger

(PATENT APPLIED FOR)

WHERE equal quantities of hot and cold liquids are involved, as in a mineral seal oil heat exchanger, the ideal shell-and-tube exchanger should have the same total cross-sectional area inside and outside the tubes so as to provide equal velocities of the liquids passing through the tubes and the shell.

This ideal requires exceedingly close tube spacing. Until recently, however, the tubes could not be placed sufficiently close together, because the remaining bridge wall at the tube sheets would not provide adequate strength.

The Griscom-Russell engineers have finally solved this problem through the design of the G-R Equaflo Heat Exchanger. In this unique apparatus (patent applied for), one or both ends of the tubes are reduced in diameter or swaged, so that the maximum number of tubes can be accommodated in the shell, at the same time permitting ample bridge wall in the tube sheets for strength.

As a result, this unit offers many important advantages not possessed by any other type of shell-and-tube heat exchanger. Baffles are unnecessary, thereby removing the principal cause of fouling. The absence of baffles also eliminates the possibility of bypassing of oil. The unit is more compact than any other exchanger for the same service. Cleaning is far easier than in any other type.

The construction, operation, and special features of this unit are concisely outlined in bulletin which will be sent on request.

HEAT EXCHANGERS
CONDENSERS
Sub-cooling—Partial—Reflux
Shell and Tube, Atmospheric, and Condenser Box Types
COOLERS
Liquid—Gas—Jacket Water
Shell and Tube, Atmospheric, and Condenser Box Types
OIL HEATERS
LEVEL CONTROLLERS

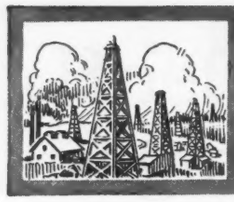
The Griscom-Russell Co.
285 Madison Ave.,
New York

Philadelphia	Atlanta
Boston	Charlotte
Rochester	Memphis
Buffalo	Indianapolis
Pittsburgh	Cincinnati
Chicago	Tulsa
Cleveland	Houston
Massillon	Dallas
St. Louis	Kansas City
Minneapolis	San Francisco
Milwaukee	Los Angeles
Detroit	Seattle
New Orleans	Denver

For Canada: Riley Engineering & Supply Co., Ltd., Toronto

Griscom-Russell

Heat Transfer Apparatus



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

OKLAHOMA (Group 3)—	Sept. 9		Sept. 2		Aug. 26	
50-52 450 endpoint	.06	.06¼	.06	.06¼	.06	.06¼
56-58 450 endpoint	.05¾	.06	.05¾	.06	.05¾	.06
*58-60 437 endpoint (U. S. Motor)	.0624		.0625		.063	
*60-62 437 endpoint	†.06	.06¼	†.06	.06¼	†.05¾	.06
*60-62 400 endpoint	.0681		.06875		.0688	
*64-66 375 endpoint	.07		†.06¾	.07	†.06½	.07
68-70 360 endpoint	.07	.07½	.07	.07¼	.07	.07¼
64-66 437 endpoint (blend)	.05¾	.06	.05½	.06	.05½	.06
NORTH TEXAS—						
50-52 450 endpoint	.05¾	.06	.05⅝	.05¾	.05⅝	.05¾
58-60 450 endpoint	.05¾	.06	.05½	.05¾	.05½	.05¾
58-60 437 endpoint (U. S. Motor)	.06	.06¼	.05½	.06	.05½	.06
60-62 400 endpoint	.06¼	.06½	.06	.06¼	.05¾	.06
64-66 390 endpoint	.06⅜	.06½	.06¼	.06½	.06⅛	.06½
64-66 375 endpoint	.06⅝	.06¾	.06½	.06¾	.06⅜	.06¾
68-70 360 endpoint	.07	.07¼	.06¾	.07¼	.06¾	.07⅛
64-66 437 endpoint (blend)	.05¾	.06	.05½	.06	.05½	.06
*NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.06¾	.07
*ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.06¾	.07
PENNSYLVANIA—						
52-54 Naphtha	.06¾		.06¾		.06¾	
54-56 Naphtha	.06¾	.07	.06¾	.07	.07	
58-60 Gasoline	.07	.07¼	.07	.07¼	.07¼	.07½
60 Gasoline	.07¼	.07½	.07¼	.07½	.07½	.07¾
62 Gasoline	.08		.08		.08	
64 Gasoline	.08		.08		.08	
68-70 350 endpoint gasoline	.08¾		.08¾		.08¾	
CALIFORNIA—						
†58-60 437 endpoint (U. S. Motor) domestic	.08	.09	.08½	.09¼	.09	.09½
†60-62 400 endpoint domestic gasoline	.09	.10	.09¾	.10¼	.09¾	.10¼
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.05¾	.06	.05½	.05¾	.05½	.05¾
56-58 450 endpoint	.05¾	.06	.05½		.05¼	.05½
58-60 437 endpoint (U. S. Motor)	.06	.06¼	.05⅝	.06	.05⅜	.06
60-62 400 endpoint	.06¼	.06½	.05¾	.06⅛	.05¾	.06⅛
64-66 375 endpoint	.06¾	.07	.06½	.06¾	.06½	.06⅞
68-70 360 endpoint	.07	.07¼	.07	.07¼	.07	.07¼
64-66 437 endpoint (blend)	.06	.06½	.05½	.06	.05½	.06
GULF COAST (Export)—						
58-60 U. S. Motor	.07	.07½	.07	.07½	.07	.07½
60-62 400 endpoint	.08	.08½	.08	.08½	.08	.08½
61-63 390 endpoint	.08½	.09	.08½	.09	.08½	.09
64-66 375 endpoint	.09	.09½	.09	.09½	.09	.09½

*Weighted average prices September 8, 1 and August 25 as reported by representative refiners. Sales to jobbers only. †No sales reported. Prices show general market.

*Louisiana, Arkansas, Mississippi and East Texas delivery. †For local consumption.

NATURAL GASOLINE

OKLAHOMA (Group 3)—	Sept. 9		Sept. 2		Aug. 26	
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade C, 80-92, 375 e.p., rec. 78%	.05½		.05½		.05½	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade C, 80-92, 375 e.p., rec. 78%	.05½		.05½		.05½	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.05⅝	.05¾	.05⅝	.05¾	.05⅝	.05¾
Grade BB, 84-92, 375 e.p., rec. 85%	.05⅝		.05⅝		.05⅝	
Grade C, 80-92, 375 e.p., rec. 78%	.05⅝		.05⅝		.05⅝	
CALIFORNIA—						
75-78, 375-390 endpoint	.07	.07½	.07	.07½	.07½	.08
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05½		.05½	

BURNING OIL

OKLAHOMA (Group 3)—	Sept. 9		Sept. 2		Aug. 26	
41-43 water white kerosene	.03¼	.03¾	.03⅛	.03½	.03	.03½
42-44 water white kerosene	.03½	.04	.03½	.03¾	.03½	.03¾
NORTH TEXAS—						
41-43 water white kerosene	.03½	.03¼	.03	.03¼	.03	.03¼
40-41 water white kerosene	.02⅞	.03	.02⅞	.03	.02⅞	.03
*NORTH LOUISIANA—						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04	.04¼
*ARKANSAS—						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04	.04¼
PENNSYLVANIA—						
43 Kerosene prime white	.04½		.04½		.04¼	
45 Kerosene water white	.05		.05		.04⅝	.04¾
46 Kerosene water white	.05	.05¼	.05	.05¼	.05	.05¼
300 Mineral Seal	.05½		.05½		.05½	
CALIFORNIA—						
38-40 Water white Kero. (high burning test)	.04½	.05½	.04¾	.05¼	.04½	.05
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.03	.03¼	.03	.03¼	.03	.03¼
42-44 water white kerosene	.03¼	.03½	.03¼	.03½	.03½	.03¾
GULF COAST (Export)—						
41-43 prime white	.06		.06		.06	
41-43 water white	.07		.07		.07	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

OKLAHOMA (Group 3)—	Sept. 9		Sept. 2		Aug. 26	
Below 18 Fuel Oil, per bbl.	.45	.50	.45	.50	.45	.50
18-22 Fuel Oil, per bbl.	.47½	.50	.47½	.50	.47½	.50
20-22 Fuel Oil, per bbl.	.50	.57½	.50	.57½	.50	.57½
22-26 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
24-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
26-30 Fuel Oil, per bbl.	.65	.75	.67½	.72½	.67½	.72½
28-30 Fuel Oil, per bbl.	.70	.80	.75	.80	.75	.80
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02¼
32-36 Gas Oil (straw color, high cold test)	.02¼	.02½	.02¼	.02½	.02¼	.02½
32-36 Gas Oil (straw color, low cold test)	.02½	.02¾				
36-38 Distillate	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
38-40 Straw Distillate	.02¾	.03¼	.02¾	.03	.02¾	.03
NORTH TEXAS—						
Below 20 Fuel Oil, per bbl.	.40	.50	.40	.50	.40	.50
24-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02	.02⅛	.02	.02⅛
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
*NORTH LOUISIANA—						
18-20 Fuel Oil, per bbl.	.75	.80	.75	.80	.75	.80
30-32 Gas Oil	.02⅜	.02¾	.02⅜	.02¾	.02⅜	.02¾
*ARKANSAS—						
33-36 Distillate	.02¾	.03	.02¾	.03	.02¾	.03
30-32 Gas Oil	.02⅜	.02½	.02⅜	.02½	.02⅜	.02½
16-22 Refinery Fuel Oil, per bbl.	.60	.70	.60	.70	.60	.70
GULF COAST (South Texas)—						
Gas Oil	.03¾	.04	.03¾	.04	.03¾	.04
Bunker C Fuel (cargo lots), per bbl.	.75	.80	.75	.80	.75	.80
Bunker C Fuel (small lots)	1.05	1.10	1.05	1.10	1.05	1.10
PENNSYLVANIA—						
30-34 Fuel Oil	.03⅝		.03⅝		.03¼	
36-40 Fuel Oil	.04		.04		.03¾	
CALIFORNIA—						
33-36 Distillate	.02¼	.02½	.02¼	.02½	.02¼	.02½
26-32 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
15-20 Fuel Oil, Bunker (at tidewater)	.65	.75	.65	.75	.65	.75
15-20 Fuel Oil (cargo lots), per bbl.	.60	.70	.60	.70	.60	.70
27 plus Diesel, per bbl.	.80	.90	.80	.90	.80	.90
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
18-22 Fuel Oil, per bbl.	.42½	.50	.42½	.50	.42½	.50
28-30 Fuel Oil, per bbl. (zero)	.75	.80	.75	.80	.75	.80
32-36 Gas Oil (zero)	.02⅜	.02¾	.02⅜	.02¾	.02⅜	.02⅝
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02⅜
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02⅝	.02⅞

*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

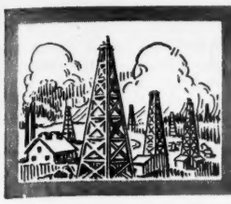
OKLAHOMA (Group 3)—	Sept. 9		Sept. 2		Aug. 26	
100 vis., 2 color, 20-25 cold test	.06	.06½	.06	.06½	.06	.06½
100 vis., 3 color, 20-25 cold test	.05½	.06	.05½	.06	.05½	.06
150 vis., 3 color, 20-25 cold test	.07¼	.07½	.07¼	.07½	.07¼	.07½
150 vis., 4 color, 20-25 cold test	.07		.07		.07	
180 vis., 3 color, 23-28 cold test	.08½	.09	.08½	.09	.08½	.09
180 vis., 4 color, 23-28 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
180 vis., 5 color, 23-28 cold test	.08		.08		.08	
200 vis., 3 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
200 vis., 4 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis., 5 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
240 vis., 3 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
240 vis., 4 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
240 vis., 5 color, 25-30 cold test	.11½	.12	.11½	.12	.11½	.12
280 vis., 3 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vsi,. 4 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
280 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
Cylinder Stocks:						
600, steam refined, light green	.08	.12	.08	.12	.08	.12
600, steam refined, dark green	.06	.08	.06	.08	.06	.08
190-200 vis., D color, Bright Stock	.30		.30		.30	
150-160 vis., D color, Bright Stock	.25		.25		.25	
*150-160 vis., D color, Bright Stock	.22	.24	.22	.24	.23	.25
150-160 vis., E color, Bright Stock	.23		.23		.23	
Waxes:						
124-126 White Crude Scale Wax	.02	.02⅛	.01¾	.02	.02	.02⅛

*High cold test. All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.05¾	.07	.05¾	.07	.05¾	.07
34 Sundebloom	.05½		.05½		.05½	
36 Miners' Neutral	.05¾		.05¾		.05¾	
150, 3 color	.11½	.13½	.11½	.13½	.12	.14
180, 3 color	.16	.17	.16	.17	.16	.17
200, 3 color	.18	.19½	.18	.19½	.18½	.20
220, 3 color	.23		.23		.23	
600, steam refined	.11½	.12	.11½	.12	.11	.11¾
635, steam refined	.15	.17	.15	.17	.15½	.17
650, steam refined	.15½	.17	.15½	.17	.15½	.17
600, Pennsylvania Flash	.18	.19½	.18	.19½	.18	.19½
630, Pennsylvania Flash	.26	.28	.26	.28	.26	.28
600, E filtered	.15½	.17	.15½	.17	.15½	.17
600, D filtered	.19	.21	.19	.21	.19	.21
Pennsylvania Bright Stocks	.25		.25		.25	
*122-124 White Crude Scale Wax	.02¼		.02¼		.02¼	
124-126 White Crude Scale Wax	.02¼		.02¼		.02¼	

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.06½	.06¾	.06½	.06¾	.06½	.06¾
200 vis., 3 color, pale oil	.09½		.09½		.09½	
300 vis., 3 color, pale oil	.10¾		.10¾		.10¾	
500 vis., 3½ color, pale oil	.12	.12¾	.12	.12¾	.12	.12¾
750 vis., 3½ color, pale oil	.13½		.13½		.13½	
1,200 vis., 3½ color, pale oil	.16		.16		.16	
2,000 vis., 6 plus color, red oil	.17		.17		.17	



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

200 vis., 5-6 color, red oil	.08¾	.09	.08¾	.09	.08¾	.09
300 vis., 5-6 color, red oil	.10	.10¼	.10	.10¼	.10	.10¼
500 vis., 5-6 color, red oil	.11¼		.11¼		.11¼	
750 vis., 5-6 color, red oil	.12¾	.13	.12¾	.13	.12¾	.13
1,200 vis., 5-6 color, red oil	.15		.15		.15	
2,000 vis., 4 color, pale oil	.17		.17		.17	
200 vis., 2½ color, filtered oil	.11	.12	.11	.12	.11	.12
300 vis., 2½ color, filtered oil	.12	.13	.12	.13	.12	.13
CALIFORNIA—						
130 vis., 2½-3 color	.09	.09¼	.09	.09¼	.10¼	.10½
200 vis., 2½-3 color	.10	.10½	.10	.10½	.11½	.11¾
300 vis., 3-3½ color	.10½	.10¾	.10½	.10¾	.13	.13½
350 vis., 3½-4 color	.11	.11¼	.11	.11¼	.13½	.13¾
400 vis., 3½-4 color	.12	.12½	.12	.12½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.10	.10¼	.10	.10¼	.11	.11¼
300 vis., 5-6 color	.10½	.10¾	.10½	.10¾	.12	.12¼
400 vis., 5-6 color	.12	.12¼	.12	.12¼	.13¼	.14
500 vis., 4½-5 color	.13	.13¼	.13	.13¼	.15¼	.15½
500 vis., 5-6½ color	.13	.13½	.13	.13¼	.15	.15¼
600 vis., 6½ plus color	.13	.13¾	.13	.13¾	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Sept. 9		Sept. 2		Aug. 26	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.08	.10	.08	.10	.08	.10
Kerosene, water white, 41-43	.06¾		.06¾		.06¾	
*Fuel Oil, Bunker "C," 41-43	1.15		1.15		1.15	
Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.04¾	.05¼	.04¾	.05¼	.04¾	.05¼
25 pale Paraffin Oil, tank car	.10¼		.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Refined Wax:						
120-122 a.m.p., per lb.	.03		.03		.03	
125-127 a.m.p., per lb.	.03⅜		.03⅜		.03⅜	
130-132 a.m.p., per lb.	.03¾		.03¾		.03⅝	
133-135 a.m.p., per lb.	.04½		.04½		.04½	
135-137 a.m.p., per lb.	.04¾		.04¾		.04⅝	
Petrolatum in barrels, in carload lots, per pound:						
Dark Green	.01¾		.01¾		.01¾	
Amber	.03¼		.03¼		.03¼	
Extra Amber	.03⅜		.03⅜		.03⅜	
Cream	.06		.06		.06	
Lily White	.06⅝		.06⅝		.06⅝	
Snow White	.08		.08		.08	

*Lighterage 5.0 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Sept. 9		Sept. 2		Aug. 26	
600, steam refined cylinder stocks, in bbls.	.17		.17		.17½	
635, steam refined	.19		.19		.19½	
650, steam refined	.23		.23		.23½	
600, Pennsylvania Flash	.28		.28		.28	
630, Pennsylvania Flash	.31		.31		.31	
600, Warren E	.24		.24		.25	
600, Oil City E	.23		.23		.24	
Light 140-150 Bright Stocks	.32	.33	.32	.33	.32	.33
Dark 140-150 Bright Stocks	.30	.31	.30	.31	.30	.31

LOS ANGELES EXPORT PRICES

	Sept. 9		Sept. 2		Aug. 26	
Kerosene, water white	.03¾	.04½	.03¾	.04½	.03¾	.04½
*U. S. Motor Gasoline, 53-55, 437 e.p.	.06½	.07	.06½	.06¾	.06½	.06¾
*60-62 400 endpoint gasoline	.08½	.09	.08½	.09	.08½	.09

*Prices on coastwise shipments.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Oklahoma City—Same as other Mid-Continent price schedule except Empire Pipe Line Co. posted all oil 40 gravity and above at $1.43 on April 10.
Corsicana heavy (April 10, 1930).....$ .80
Other fields .....See gravity table

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.
In Noel-McConnell district, Prairie Oil & Gas Co. posted April 10, below 30 degrees, 75½ cents, with 5-cent differential upward to 34-34.9, $1.00½, and then a 3-cent differential upward to 44 and above at $1.35½.

WEST TEXAS

Iatan*.....Same as North Texas
Crane-Upton-Crockett, Pecos, Winkler, Mitchell and Ector.....
.....See gravity table, Column 3
Howard and Glasscock.....
.....See gravity table, Column 9
Chalk† (April 10, 1930).....$ .75

*Includes Westbrook Field. †Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (April 11, 1930) .....$ .90
Smackover, 24 gravity and above (April 11, 1930) 1.05
Carterville, Sarepta and Cotton Valley, below 36 gravity (April 11, 1930).... .85
Bellevue (April 11, 1930)..... 1.15
Urania (April 11, 1930) ..... .95
East El Dorado (April 11, 1930)..... .90
Other fields.....See gravity table

Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado posted by Magnolia Petroleum Co.

Grade A (April 10, 1930)*.....$1.15
Grade B, 25 degrees and upward.....
.....See gravity table
Jennings, La. (April 10, 1930)†..... 1.10
Refugio (light).....Same as Grade B
Refugio (heavy) (April 10, 1930)‖..... .85
Sorrento (April 10, 1930)‡..... 1.10
Markham (April 10, 1930)§..... .85
High Island (April 10, 1930)¶..... .95

*Humble Oil & Refining Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §Texas Pipe Line Co. ¶Posted by Gulf Pipe Line Co. ‖Humble Oil & Refining Co. and Gulf Coast Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective April 11, 1930)

Iles (Feb. 15, 1930).....$ .87
33 gravity and above..... .87
Under 33 gravity..... .65
Dutton Creek (Feb. 15, 1930)..... 1.25
Rock Creek, Wyo. 1.35

(Continued on Page 144)

CRUDE OIL GRAVITY TABLE

Gravity—	1 Okla.-Kans.	2 N. C. Texas No. La., Arkansas	3 Crane, Upton, Ector, Crockett, Winkler, Pecos, Mitchell, West Texas, Lea, N. Mex.	4 Wheeler County (Texas Panhandle)	5 Gray County (Texas Panhandle)	6 Carson and Hutchinson (Texas Panhandle)	7 Salt Creek, Wyo.	8 Stephens, Ark.	9 Howard-Glasscock (West Texas)	10 Grade B Gulf Coast and Refugio Texas
Below 25	.75	.72	.65	....	....	....	....	....	.65	1.00
25 to 25.9	.80	.77	.68	....	....	....	....	....	.68	1.05
26 to 26.9	.85	.82	.71	....	....	....	....	....	.71	1.06
27 to 27.9	.90	.87	.74	....	....	....	....	.76	.74	1.09
28 to 28.9	.95	.92	.77	....	.75½	....	....	.81	.76	1.12
29 to 29.9	1.00	.97	.80	.75½	.80½	....	1.00	.86	.78	1.15
30 to 30.9	1.05	1.02	.83	.80½	.85½	....	1.05	.91	.80	1.18
31 to 31.9	1.10	1.07	.86	.85½	.90½	.77½	1.10	.96	.82	1.21
32 to 32.9	1.15	1.12	.89	.90½	.95½	.82½	1.15	1.01	.84	1.24
33 to 33.9	1.18½	1.17	.92	.95½	1.00½	.87½	1.18½	....	.86	1.27
34 to 34.9	1.22	1.22	.95	1.00½	1.05½	.92½	1.22	....	.88	1.30
35 to 35.9	1.25½	1.25½	.98	1.04	1.09	.96	1.25½	....	.90	1.33
36 to 36.9	1.29	1.29	1.01	1.07½	1.12½	.99½	1.29	....	.92	1.36
37 to 37.9	1.32½	1.32½	....	1.11	1.16	1.03	1.32½	....	....	1.39
38 to 38.9	1.36	1.36	....	1.14½	1.19½	1.06½	....	....	....	1.42
39 to 39.9	1.39½	1.39½	....	1.18	1.23	1.10	....	....	....	1.44
40 to 40.9	1.43	1.43	....	1.21½	1.26½	1.13½	....	....	....	1.46
41 to 41.9	1.46½	1.46½	....	1.25	1.30	1.17	....	....	....	1.48
42 to 42.9	1.50	1.50	....	1.28½	1.33½	1.20½	....	....	....	1.50
43 to 43.9	1.53½	1.53½	....	1.32	1.37	1.24	....	....	....	1.52
44 and above	1.57	1.57	....	1.35½	1.40½	1.27½	....	....	....	1.54

Column 1, Note—Above prices posted April 10, 1930, by Carter Oil Co. (beginning at 25° and below), and by the Prairie Oil & Gas Co. and other purchasers beginning at 24° and below, the Magnolia Petroleum alone excepted. The Magnolia on April 10 posted the following prices: Below 26 gravity, 70 cents; 26-26.9, 76 cents; 27-27.9, 82 cents; 28-28.9, 88 cents; 29-29.9, 95 cents; 30-30.9, $1.02. From 31 and up and including 44° and above Magnolia followed Carter price schedule, but made its whole schedule apply to its gravity purchases in Kansas, Oklahoma and North Central Texas alike.

Column 2—Humble Oil & Refining Co. posted above prices April 10, 1930, and was followed by all other companies in Texas except Magnolia which posted a different price schedule than Humble up to 33.9° (See note in paragraph just above). The Texas Company posted North Louisiana and Arkansas on April 10, and Standard of Louisiana posted on April 11, followed by other companies, but Magnolia's price schedule begins with below 28 gravity at 87 cents. North Central Texas includes North Texas, Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona, Moran and Corsicana light. Arkansas and Louisiana pools include Caddo, Bull Bayou, Crichton, Cotton Valley (above 36 gravity), DeSoto, Haynesville, Homer, El Dorado and Rainbow.

Column 3—Posted by Humble Oil & Refining Co. April 10, 1930, and Magnolia Petroleum Co., April 10, 1930.

Columns 4, 5 and 6—Humble Oil & Refining Co., Prairie Oil & Gas Co., Magnolia Petroleum Co., April 10, 1930.

Column 7—Midwest Refining Co., April 11. All crude over 37 gravity $1.32½.

Column 8—Louisiana Oil & Refining Co., April 11.

Column 10—Humble Oil & Refining Co., April 10. Magnolia Petroleum Co. posted below 25 gravity, 65 cents, with 3-cent differential upward to and including 36 and above, which was posted at $1.01.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective March 11, 1930)

Gravity—	1 Seal Beach, Salt Lake, Newport, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Huntington Beach, Signal Hill, Inglewood	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 *Montebello	5 Santa Fe Springs (June 14, 1930)	6 Santa Maria, Coalinga	7 Wheeler Ridge, Fruitvale	8 Orcutt, Ventura, Rincon	9 Ventura Avenue (Nov. 6)	10 Elwood Terrace	Athens, Rosecrans, Dominguez
14 to 14.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
15 to 15.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
16 to 16.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
17 to 17.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
18 to 18.9	.76	.76	.62	.71	....	.62	.62	.65	.76	....	....
19 to 19.9	.82	.82	.70	.77	....	.70	.70	.70	.82	....	....
20 to 20.9	.88	.87	.78	.83	....	.78	.78	.78	.88	....	....
21 to 21.9	.94	.93	.86	.90	.92	.86	.86	.90	.91	....	....
22 to 22.9	1.00	.98	.94	.97	.95	.94	.94	.95	.94	....	....
23 to 23.9	1.07	....	1.02	1.05	1.01	1.02	1.02	1.02	1.00	....	....
24 to 24.9	1.14	....	1.09	1.11	1.07	1.07	1.07	1.10	1.07	....	1.14
25 to 25.9	1.21	....	1.16	1.17	1.13	1.12	1.12	1.18	1.14	....	1.19
26 to 26.9	1.28	....	1.23	1.23	1.19	1.17	1.17	1.26	1.21	....	1.24
27 to 27.9	1.35	....	1.30	1.29	1.25	1.23	1.22	....	1.28	....	1.29
28 to 28.9	1.42	....	1.35	1.35	1.31	1.27	....	....	1.35	....	1.34
29 to 29.9	1.46	....	1.41	1.38	1.37	1.31	....	....	1.39	....	1.39
30 to 30.9	1.50	....	1.47	1.41	1.43	1.35	....	....	1.43	....	1.45
31 to 31.9	1.55	....	1.53	....	1.49	1.39	....	....	1.48	....	1.51
32 to 32.9	1.60	....	1.59	....	1.56	1.43	....	....	1.53	....	1.57
33 to 33.9	1.65	....	1.65	....	1.60	1.47	....	....	1.59	....	1.64
34 to 34.9	1.70	....	....	....	1.65	1.51	....	....	1.65	1.32	1.71
35 to 35.9	1.75	....	....	....	1.70	1.55	....	....	1.71	1.39	1.78
36 to 36.9	1.80	....	....	....	1.75	....	....	....	....	1.46	1.84
37 to 37.9	1.85	....	....	....	1.80	....	....	....	....	1.53	1.90
38 to 38.9	1.90	....	....	....	1.85	....	....	....	....	1.60	1.96
39 to 39.9	....	....	....	....	1.90	....	....	....	....	1.66	2.02
40 to 40.9	....	....	....	....	....	....	....	....	....	1.72	2.08
41 to 41.9	....	....	....	....	....	....	....	....	....	1.78	2.14
42 to 42.9	....	....	....	....	....	....	....	....	....	1.84	2.20

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain, 11 to 13.9 gravity, 50 cents; 14 gravity and above 55 cents, effective March 11. On March 11, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 50 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 50 cents.

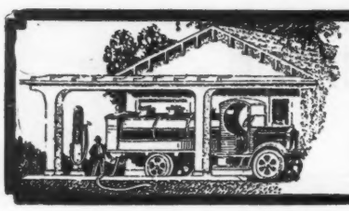
Column 5—Price change posted by Standard of California, June 14.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.

Column 10—Standard posted price f.o.b. tanker.

Kettleman Hills, 55 gravity and above, $1.65 (posted by Standard Oil Co. of California).



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Sept. 9

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

*STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago†	18.0	19.0	3.0	13.0
Decatur, Ill.	18.2	19.2	3.0	13.1
E. St. Louis	17.4	18.4	3.0	12.2
Joliet	18.4	19.4	3.0	13.3
Peoria	18.2	18.2	3.0	13.1
Quincy	18.2	19.2	3.0	12.9
Davenport, Ia.	18.5	19.5	3.0	13.3
Des Moines	15.5	16.5	3.0	13.3
Keokuk	18.5	19.5	3.0	13.3
Sioux City	18.1	19.1	3.0	12.9
Duluth, Minn.	19.5	20.5	3.0	13.9
Mankato	19.1	15.0	3.0	13.7
Minneapolis	19.2	20.2	3.0	13.9
LaGrosse, Wis.	18.2	19.2	2.0	14.0
Milwaukee	17.1	18.1	2.0	12.9
Madison	17.3	18.3	2.0	13.1
Detroit, Mich.	18.8	19.8	3.0	14.7
Grand Rapids	18.7	19.7	3.0	14.6
Saginaw	18.9	19.9	3.0	14.8
Evansville, Ind.	19.0	20.0	4.0	14.0
Fort Wayne	19.4	20.4	4.0	14.4
Indianapolis	17.9	17.2	4.0	14.2
South Bend	19.4	20.4	4.0	14.4
Fargo, N. D.	20.9	21.9	3.0	15.9
Huron, S. D.	20.3	17.5	4.0	14.7
Sioux Falls	19.1	20.1	4.0	14.4
K. C., Mo.*	17.9	18.9	3.0	11.6
Springfield*	17.8	18.8	3.0	12.5
St. Louis*	16.9	17.9	2.5	12.3
St. Joseph	17.5	18.5	2.0	12.2
Wichita, Kans.	16.8	14.8	3.0	11.8
Bartlesville, Ok.	17.5	20.5	4.0	11.5

*State tax 2 cents; remainder city tax.

†Effective June 3, discounts on Q.D.A. in Chicago district 4 cents off service station price on purchases of 500 gallons or more per month and 5 cents on purchases of 1,000 gallons or more per month.

Effective August 5, the following quantity discounts from the service station prices are allowed on monthly sales of gasoline: 500 gallons or more, 3 cents; 75,000 gallons or more, 4½ cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	16.0	19.0	4.0	15.5
Pueblo	17.0	20.0	4.0	15.5
Grand Junction	21.5	24.5	4.0	19.0
Casper, Wyo.	19.0	22.0	4.0	14.0
Cheyenne	20.5	23.5	4.0	15.5
Butte, Mont.	24.5	22.0	5.0	20.0
Billings	24.5	27.5	5.0	18.5
Great Falls	24.5	27.5	5.0	20.0
Helena	24.5	27.5	5.0	20.0
Salt Lake, Utah	20.0	23.0	3.5	17.0
Albu'que, N. M.	14.0	18.0	5.0	15.0
Boise, Idaho	23.5	26.5	5.0	19.0
Twin Falls	23.5	27.5	5.0	19.0

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.	*13.5	13.5	5.0	12.0
Baton Rouge	15.5	16.0	4.0	14.0
Alexandria†	17.5	18.0	5.0	13.0
Lafayette*	17.5	18.0	5.0	13.0
Lake Charles*	17.5	18.0	5.0	18.0
Shreveport	15.5	17.5	4.0	13.0
Knoxv'le, Tenn.	19.5	20.0	5.0	15.0
Memphis	15.0	17.0	5.0	12.5
Chattanooga	19.5	20.0	5.0	13.0
Nashville	17.0	17.0	5.0	15.0
Bristol	19.5	21.5	5.0	14.0
Lt. Rock, Ark.	17.0	17.0	5.0	13.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	14.0	18.0	4.0	12.0
Fort Worth	14.0	17.0	4.0	11.0
Houston	15.0	19.0	4.0	11.0
San Antonio	13.0	17.0	4.0	11.0
El Paso	16.0	20.0	4.0	13.0
Texarkana	14.0	15.0	4.0	12.0
Muskogee*	16.0	19.0	4.0	9.0
Okla. City*	15.0	18.0	4.0	10.0
Tulsa	16.0	20.0	4.0	10.0
Ft. Smith, Ark.	14.0	15.0	5.0	12.0
Little Rock	17.0	17.0	5.0	13.0

*Gasoline tank wagon price to dealers 1 cent under posted tank wagon.

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	16.0	*21.0	...	13.0
Philadelphia	16.0	*21.0	...	13.0
Scranton	16.0	*21.0	...	13.0
Allentown	16.0	*21.0	...	13.0
Altoona	16.0	*21.0	...	13.0
Erie	15.0	*19.0	...	13.0
Dover, Del.	19.0	21.0	3.0	13.0
Wilmington	19.0	21.0	3.0	13.0
Springf'd, Mass.	17.5	19.5	2.0	12.5
Worcester	17.3	19.3	2.0	12.3
Boston	16.5	18.5	2.0	11.5
Providence, R.I.	16.7	18.7	2.0	11.7
Hartford, Conn.	17.5	19.5	2.0	12.5
New Haven	17.6	19.6	2.0	12.6

*Includes tax of 3 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Wholesale price	Retail price	Incl'ds tax of	tank wagon
Fresno	19.0	17.0	3.0	17.0
San Francisco	19.0	12.0	3.0	15.5
Los Angeles	18.5	16.5	3.0	15.5
Reno, Nev.	24.0	22.0	4.0	19.0
Portland, Ore.	20.5	18.5	4.0	16.5
Seattle, Wash.	19.5	12.5	3.0	16.5
Tacoma	19.5	17.5	3.0	16.5
Spokane	21.5	21.5	3.0	20.5
Phoenix, Ariz.	17.0	20.0	4.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	19.25	19.25	4.0	13.25
McCook	20.75	22.75	4.0	14.75
Norfolk	19.75	21.75	4.0	13.75
N. Platte	20.75	22.75	4.0	14.50
Scottsbluff	17.00	17.00	4.0	14.25

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points*	20.0	21.0	4.0	†14.0

*Dealers and commercial accounts 2 cents under tank wagon.

†Service station price 16 cents.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	15.6	17.6	2.0	15.6
New York*	16.3	18.3	2.0	14.3
Buffalo	17.8	19.8	2.0	14.8
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.8	20.8	2.0	14.8
Boston, Mass.	16.5	18.5	2.0	13.5
Augusta, Me.	19.8	21.8	4.0	14.8
Manch't'r, N. H.	19.4	21.4	4.0	14.0
Burlington, Vt.	19.6	21.6	4.0	15.3

*Prices in steel barrels.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	10.0
V. M. & P. naphtha	16.7	12.0
Cleaner's naphtha	17.0	14.9
Stanisol	17.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City	16.5	18.5	2.0	13.5
Newark, N. J.	15.5	17.5	2.0	12.5
Annapolis	18.0	20.0	4.0	13.0
Baltimore	17.2	19.2	4.0	10.5
Cumberland	19.0	21.0	4.0	14.0
Wash'gton, D.C.	15.7	17.7	2.0	12.7
Danville, Va.	19.8	21.8	5.0	13.8
Norfolk	18.3	20.3	5.0	11.0
Petersburg	19.3	21.3	5.0	13.3
Roanoke	19.0	20.0	5.0	14.0
Richmond	18.7	20.7	5.0	12.7
Charles'n, W.Va.	18.5	20.5	4.0	12.5
Keyser	19.1	21.1	4.0	14.1
Parkersburg	17.2	19.2	4.0	11.2
Wheeling	18.4	20.4	4.0	12.4
Charlotte, N. C.	20.3	22.3	5.0	14.3
Hickory	20.6	22.6	5.0	14.6
Mt. Airy	20.5	22.5	5.0	14.5
Salisbury	20.5	22.5	5.0	14.5
Charleston, S.C.	19.3	21.3	6.0	12.3
Columbia	21.2	23.2	6.0	14.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	19.0	21.0	6.0	14.5
Augusta	22.0	24.0	6.0	15.5
Macon	20.0	22.0	6.0	13.0
Savannah	18.0	20.0	6.0	14.0
Birm'ham, Ala.	16.0	18.0	5.0	14.5
Mobile	18.0	18.0	4.0	13.5
Montgomery	19.0	21.0	4.0	15.0
Clarks'le, Miss.	19.0	21.0	5.0	12.5
Jackson	17.0	19.0	5.0	13.0
Natchez	19.0	21.0	5.0	13.0
Gulfport	20.5	22.5	5.0	13.0
Vicksburg	19.0	21.0	5.0	13.0
Jack'ville, Fla.	19.0	21.0	6.0	14.0
Miami	21.0	23.0	6.0	14.0
Pensacola	19.0	19.0	6.0	13.5
Tampa	20.0	20.0	5.0	13.0
Lexington, Ky.	19.0	20.0	5.0	14.5
Covington	20.0	22.0	5.0	14.5
Louisville	18.0	20.0	5.0	13.0
Ashland	18.0	20.0	5.0	15.0
Catlettsburg	18.0	20.0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Birmingham and Mobile state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

TANK WAGON CHANGES

Standard Oil Co. of Louisiana reduced the gasoline tank wagon and station prices 1 cent in New Orleans, La., to 13.5 cents each August 23.

Standard Oil Co. of Indiana reduced the gasoline tank wagon 1 cent in Peoria, Ill., to 18.2 cents September 2. On the same date the tank wagon was reduced to 17.9 cents in Indianapolis, Ind.

Standard Oil Co. of Indiana reduced the gasoline tank wagon and station prices 3 cents in Des Moines, Iowa, to 15.5 and 16.5 cents, August 30. The station price was reduced to 17.2 cents in Indianapolis, Ind., September 3.

Standard Oil Co. of New York reduced the gasoline tank wagon and station prices 2 cents throughout the greater share of the New York area. In the metropolitan area the prices were reduced 2 cents and in the suburban districts 1 cent.

Standard Oil Co. of Louisiana reduced the gasoline tank wagon price 2 cents in Memphis, Tenn., September 4.

E. G. SEUBERT RETURNS

E. G. Seubert, president of the Standard Oil Co. of Indiana, has returned to the Chicago headquarters from a vacation trip to European points.

TORNADO DAMAGES PLANT

SHREVEPORT, La., Sept. 6.—A tornado struck the refinery of the Ouachita Valley Refining Co., a mile or so south of El Dorado, Ark., September 3, blew down four stacks and lifted the roofs of the boiler house, compounding house and laboratory. The damage, however, was not sufficient to necessitate a shut down and operations continued as usual.

CRUDE OIL PRICES

(Continued from Page 143)

Salt Creek	See gravity table
Big Muddy	1.38
Grass Creek, heavy (July 27, 1928)	.90
Grass Creek, light	1.55
Mule Creek (May 21, 1929)	1.20
Elk Basin	1.55
Lance Creek	1.63
Poison Spider (March 14, 1927)	1.00
Notches (March 14, 1927)	.85
Rex Lake (February 22)	1.10
Osage	1.63
Lost Soldier (contract, May 22)	1.00
Hamilton Dome (March 14, 1927)	.85
Greybull (April 11, 1930)	1.55
Four Bear (May 31, 1929)	.85
Cat Creek	1.55
Pondera (Montana) (April 10, 1930)	1.55
Sunburst (Montana) (Feb. 15, 1930)	1.65
Hogback (Feb. 15, 1930)	1.40
Artesia (New Mexico)	1.05
Lea County	See gravity table

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (April 10, 1930)*	$1.15
Luling (April 10, 1930)	.85
Mirando (April 10, 1930)†	.85
Pettus (Aug. 21, 1930)§	1.15
Salt Flat (April 10, 1930)§	1.15
Thrall‡	
Lytton Springs (Lockhart). See gravity table.	
Somerset (April 10, 1930):	
Below 33 gravity	$1.15
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.19
35 to 35.9 gravity	1.21
36 to 36.9 gravity	1.23
37 to 37.9 gravity	1.25
38 gravity and above	1.27

*Posted by Humble Oil & Refining Co. and Magnolia Petroleum Co. †Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co. ‡Thrall prices same as North Central Texas less 19¼ cents per cwt, freight. §Humble Oil & Refining Co

EASTERN STATES

Joseph Seep Purchasing Agency

(Effective August 22, 1930)

Seep Purchasing Agency withdrew from Bradford and Allegany Fields as a purchaser on May 16.

Penna Grade Oil in National Transit Lines (Pennsylvania)	$2.20
Penna Grade Oil in Southwest Pennsylvania Lines (Pennsylvania)	2.20
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.10
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) (July 11, 1930)	1.75
Corning Grade Oil in Buckeye Pipe Line Co.'s Lines (Aug. 1, 1930)	1.50
Somerset Oil in Eureka Pipe Line Lines (Kentucky) (Aug. 1, 1930)	1.10
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Aug. 1, 1930)	1.30
Wayne District Oil in Cumberland Pipe Lines (April 11, 1930)	1.85
Tide Water Pipe Co.	
Bradford district (Aug. 22)	2.50
Allegany district (Aug. 22)	2.50
Pure Oil Co.	
Cabin Creek, W. Va. (Aug. 22)	2.40
Kelly Creek, W. Va. (Aug. 22)	2.25
Bradford Hollow, W. Va. (Aug. 23)	2.25

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective April 11, 1930)

Lima (June 26, 1930)	$1.50
Wooster (June 26, 1930)	1.70
Illinois	1.65
Indiana (June 26, 1930)	1.32
Princeton	1.65
Plymouth	1.23
Western Kentucky	1.55
Midland, Mich.* (Aug. 21)	1.30
Dundee, Mich. (April 16)‖	
.....Same as Mid-Continent gravity scale	
Upper and Lower Traverse Sands, Mich. (April 16)‖	
.....Same as Mid-Continent gravity scale	
Saginaw, Mich. (April 11)†	
.....Same as Mid-Continent gravity scale	
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 15)‡	1.50
Oil City, Ky. (July 25, 1930)§	1.35
Oil Springs (Canada) (June 28, 1930)¶	2.02
Petrolia (Canada) (June 23, 1930)¶	1.95

*Posted by Pure Oil Co. †Posted by Sun Oil Co. ‡Posted by Paragon Development Co. §Posted by Stoll Oil Refining Co. ¶Posted by Imperial Oil Co., Ltd. ‖Posted by Standard of Indiana for boat shipment. Local refiners posted Mid-Continent prices on April 11.

MEXICAN CRUDE

Panuco*	$0.55

*F.o.b. ship, based on August transactions.

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SINCLAIR REFINING COMPANY, INC., 45 Nassau Street, New York—*Atlanta, Chicago, Houston, Kansas City*

Standard Oil Group Dividend Payments

Record for Third Quarter and for the Nine Months. No Regular Dividends Have Been Cut; Some Extras Omitted

Cash dividend disbursements by the companies of the Standard Oil group in the third quarter of 1930 amounted to $68,859,106 compared with $68,590,901 in the second quarter and $65,426,981 in the third quarter of 1929, according to figures compiled by Carl H. Pforzheimer & Co., specialists in Standard Oil company securities. Disbursements in the third quarter of this year show an increase of $3,432,125 over the payments for the same period of 1929 and are a record for any third quarter in the history of the Standard Oil companies.

Cash dividends for the first nine months of 1930 have amounted to $204,212,175 compared with $194,582,071 in the first nine months of 1929, a gain of $9,630,104. The dividend record for this year is considered exceptionally favorable when compared with that of many other leading industries where reductions in the regular dividend rates have been general. None of the leading Standard Oil companies has cut its regular dividend rate this year. Several have omitted extra dividends, but the latter had been paid for the most part at irregular intervals and were not considered fixtures. In practically all instances where extra dividends have been paid over a long period, these extras have been continued.

The Standard Oil Co. of New Jersey has maintained quarterly disbursements at the rate of 25 cents a share regular and 25 cents a share extra. In the third quarter of 1930 the South Penn Oil Co. omitted the extra dividend of 12½ cents a share which had been paid the preceding quarter, but continued the regular rate of 50 cents a share quarterly. Standard Oil Co. of Kentucky also omitted the extra of 20 cents a share which had been paid in the second quarter but declared the regular dividend of 40 cents a share. These were the only important changes to be recorded in payments for the third quarter as compared with the second quarter. The Ohio Oil Co. declared a quarterly dividend of 50 cents a share on the new no par value stock, which is at the same rate as formerly paid on the old $25 par value stock. The quarterly payment, however, will amount to $3,322,857, against $2,400,000 paid in the preceding quarter, the increase being due to the issuance of new stock in exchange for that of Transcontinental Oil Co.

The record of quarterly disbursements for the past few years follows:

	First quarter	Second quarter	Third quarter
1930	$66,762,168	$68,590,901	$68,859,106
1929	63,101,701	66,053,389	65,426,981
1928	48,927,760	57,694,206	50,068,102
1927	55,873,413	54,291,615	47,728,440
1926	40,580,317	50,618,451	46,443,278
1925	34,355,618	41,905,728	35,140,584
		Fourth quarter	Full year
1929		$75,063,856	$269,645,927
1928		62,050,357	218,740,335
1927		55,804,755	213,698,223
1926		62,685,548	200,327,594
1925		42,104,169	153,506,099

Pan American

Pan American Petroleum & Transport Co. reports for the six months ended June 30 last, earnings of $7,988,361 before federal taxes, compared with $3,985,719 similarly earned in the first half of 1929. Increased earnings during the first half of the current year reflect, in part, the operations of the Lago refinery at Aruba, Dutch West Indies, which started large-scale operations during the early part of this year.

Richfield Oil

Richfield Oil Co. of California has notified the New York Stock Exchange of its intention to change its common stock from $25 par to no par and to issue one share of the new par stock in exchange for each share of the present $25 par outstanding.

Texon Oil & Land

Texon Oil & Land Co. declared an extra of $3 and regular quarterly dividend of 25 cents on common, payable October 1 to stock of record September 10.

Plymouth Oil

Plymouth Oil Co. declared regular quarterly dividend of 50 cents, payable September 30 to stock of record September 16.

South Penn Oil

South Penn Oil Co. declared the regular quarterly dividend of 50 cents, payable September 30 to stock of record September 16. In the three previous quarters, extra dividends of 12½ cents each were paid.

Rio Grande Oil

Rio Grande Oil Co. reports, for six months ended June 30, 1930, net profit of $2,232,303, after depreciation, depletion and Federal taxes, equivalent to $1.80 a share on 1,236,270 no-par shares of capital stock. This compares with $3,022,362, or $2.48 a share on 1,218,000 shares, in first half of 1929.

Southwest Gas Utilities

Report of Southwest Gas Utilities Corp. and subsidiaries for six months ended June 30, 1930, shows profit of $234,499 after interest, depreciation, depletion, minority interest, etc., but before federal taxes, comparing with profit of $307,462 in the first half of 1929. Capital stock consists of 31,244 no-par shares of $6.50 cumulative preferred stock and 171,888 no-par shares of common stock.

Derby Oil & Refining

Statement of Derby Oil & Refining Corp. and its subsidiary, Derby Oil Co., as of June 30, 1930 shows total assets of $5,070,293, current assets of $1,246,779, current liabilities of $960,293 and net worth of $4,044,838. Net profit of Derby Oil Co. and its subsidiary (controlled by Derby Oil & Refining Corp.) for the quarter ended June 30, 1930, was $361,177, after taxes, interest, depreciation, depletion, etc., comparing with net loss of $38,968 in preceding quarter. Net profit for six months ending June 30 was $322,209.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Mar. 26	51.00	June 18	41.41
Apr. 2	51.55	June 25	42.37
Apr. 9	53.26	July 2	44.13
Apr. 16	52.04	July 9	44.11
Apr. 23	53.39	July 16	46.42
Apr. 30	53.70	July 23	46.06
May 7	50.23	July 30	44.89
May 14	51.67	Aug. 6	45.24
May 21	49.71	Aug. 13	43.53
May 28	50.98	Aug. 20	43.79
June 4	50.94	Aug. 27	42.83
June 11	46.65	Sept. 3	42.71

Colonial Beacon Oil

Colonial Beacon Oil Co. (controlled by Standard Oil Co. of New Jersey) reports for six months ended June 30, 1930, net loss of $1,316,164 after expenses, interest, depreciation, etc. This compares with profit of $530,509 before federal taxes in first half of 1929.

For the quarter ended June 30, net loss amounted to $459,303, after above charges, comparing with net loss of $856,861 in preceding quarter, and profit before federal taxes of $390,031 in June quarter of 1929.

West Coast Oil Co.

West Coast Oil Co. declared an extra dividend of $40 on preferred, payable, as distribution of capital assets, to stock of record September 2 subject to approval of California Corporation Commission.

(Continued on Page 150)

INDEPENDENT OILS ON NEW YORK CURB

Quotations compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended September 3 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
⅜	1/8	500	1/8	1/8	1/8	American Consolidated Oilfields		$11,018,000	$5	....	.....	2 1/16	.55	1 1/2	.53	72c	1/8
4½	1½	200	2⅛	2	2	American Maracaibo	(sh)	700,000	N.P.	....	.....	7½	2¾	9½	3⅛	8⅝	1⅛
1⅜	1	300	1⅛	1⅛	1⅛	Argo Oil	(sh)	683,971	$10	....	.....	2¾	1	4½	2¼	5	1½
21	17	100	17	17	17	British American (new, C.W.I.)		1,311,321	N.P.	25cQ*	1- 2-30	40	20½	55	32¾	62	7⅛
2¾	¾	400	1½	1½	1½	Caribbean Syndicate		$131,250	25c	....	.....	28¼	15½	4½	3⅞	4⅞	1
44¼	24⅛	42,100	29⅛	28¾	29	Cities Service	(sh)	24,290,359	N.P.	30cA†	1- 2-30	58¾	40¼	90⅞	54	68⅛	20
93⅞	88	300	91	91	91	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	1- 2-30	95⅜	87	103½	94½	98¾	84
¾	¼	500	¼	¼	¼	Colombia Syndicate		$2,000,000	$1	....	.....	3⅞	1⅛	3¼	.76	2	½
5⅞	3½	200	3½	3½	3½	Consolidated Royalty		$5,000.000	$10	12½cQ	7-25-30	9¾	6⅜	8⅞	6¼	11⅛	2½
7⅝	5¼	600	5⅝	5⅜	5½	Creole Petroleum E	(sh)	5,977,873	N.P.	....	.....	14⅞	9½	17½	9½	11¾	5⅝
1	1/4	100	⅜	⅜	⅜	Crown Central	(sh)	587,000	N.P.	....	.....	3	.50	3¼	.76	2½	¼
21¾	11½	100	11½	11½	11½	Darby Petroleum (new)		1,019,392	N.P.	25cvQ	1-15-30	12	4	33½	3¼	26	6½
11	4½	100	6⅞	6⅞	6⅞	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2½	74	2¼	1	11	2
60	30	50	42	42	42	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	16¾	4	21⅛	7½	44	20⅜
166⅞	115⅛	600	118½	118½	118½	Gulf Oil Corp.	(sh)	4,504,921	$25	37½Q	1- 1-30	118	86¼	165	101⅛	209	115
1¾	⅝	900	¾	⅝	⅝	Intercontinental Petroleum		$5,682,000	$5	....	.....	2½	.80	3⅜	1	2⅞	⅜
3	1½	100	1⅝	1⅝	1⅝	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	2¼	1⅛	3	1¼	3⅝	1¼
4¾	1⅛	800	1⅜	1¼	1¼	Leonard Oil & Development		$50,000,000	$25	....	.....	10⅞	5⅛	9⅜	5⅛	6⅛	1
29	18⅝	100	18⅞	18⅞	18⅞	Lion Oil & Refining	(sh)	250,000	N.P.	50cQ	1-31-30	27½	20	43⅞	20	38⅞	18
55⅞	34⅛	600	39½	39½	39½	Lone Star Gas	(sh)	5,000,000	N.P.	20cQ	12-31-29	59⅜	37	69⅛	48½	67⅞	28
½	⅛	200	⅛	⅛	⅛	Magdalena Syndicate	(sh)	850,000	$1	....	.....	2⅞	.80	1⅞	.50	1¼	⅛
16	12	100	12½	12½	12½	Margay Oils		160,000	N.P.	50cQ	1-10-30	52	12	48½	32	38½	14
7½	2	100	2⅝	2⅝	2⅝	Mexico-Ohio Oil		.....	...	....	.....	12⅛	5	8	2¾	6⅜	2½
¾	⅜	800	1/16	1/16	1/16	Mountain & Gulf		$4,000,000	$1	2cQ	1-15-30	1½	1	1¾	.76	1½	¼
12⅛	8	100	9¾	9¾	9¾	Mountain Producers		$1,682,182	$10	40cQ	1- 2-30	29¼	22¾	28⅞	19½	22⅞	7
3½	2⅜	200	2⅜	2⅜	2⅜	New Bradford Oil		$1,095,291	$5	12½cQ	1-15-30	5⅞	4⅝	5⅝	4¼	5	2½
7¼	3⅛	100	4	3⅝	4	New Mexico & Arizona		$1,000,000	$1	....	.....	16	9¼	11⅞	7⅛	9⅜	2¼
11¼	6	200	7	6½	6½	North Central Texas	(sh)	400.000	N.P.	15cQ	12- 2-29	12¾	9½	14¼	8½	18½	6⅛
2½	⅜	2,600	⅜	⅜	⅜	Pandem	(sh)	489,875	N.P.	....	.....	9⅜	3¼	6	2⅛	3½	½
4⅜	1⅝	200	2⅛	2⅛	2⅛	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	12⅞	7	15⅝	8½	10½	1⅞
No Sales						Pennok Oil		150,000	N.P.	....	.....	13½	5⅛	7¾	4⅞	7¾	4⅜
10½	8	100	8	8	8	Red Bank Oil	(sh)	250.000	N.P.	....	.....	24⅜	7	18	4⅞	16	9⅝
5⅜	2⅛	100	3¼	3¼	3¼	Reiter-Foster	(sh)	388.584	N.P.	10cQ	12- 9-29	15½	3½	12⅞	4⅛	8½	1⅛
8⅝	3⅝	200	4	4	4	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	7	4½	12	4⅛	11	3
2½	1⅜	200	2	1⅞	2	Salt Creek Consolidated	(sh)	1,286,300	$10	10cQ	1- 2-30	8	5¼	7¼	5½	5⅞	1⅞
15¼	8¼	100	10½	10½	10½	Salt Creek Producers	(sh)	1,496,859	$10	50cQ	2- 1-30	35½	27¼	35	23⅛	25⅞	9
1	½	100	½	½	½	Savoy Oil		$750,000	$5	....	.....	7	1¼	3½	1	2½	1/16
No Sales						Transcontinental pfd.		.....	...	....	.....	..	..	..	..	..	..
4½	2	200	2⅛	2⅛	2⅛	Venezuelan Petroleum	(sh)	755.090	$5	5cQ	11-15-29	7⅝	4¼	9⅛	4⅜	6½	1¾
5	2	200	4	4	4	Woodley Petroleum		$500.000	$1	....	.....	7	4⅜	8¼	4⅞	9½	2
2½	½	200	¾	¾	¾	Y Oil & Gas		100,000	N.P.	....	.....	6	1¾	8⅜	2⅛	2⅞	¼

*Including one-half per cent monthly in stock. †Payable monthly and a monthly stock dividend of one-half per cent. x Ex-dividend.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended September 3 Sales	Week ended September 3 High	Week ended September 3 Low	Week ended September 3 Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
18½	12¼	400	18½	18⅜	18½	Anglo-American Oil (vot. C.O.D.)		£4,192,635	£1	.36 9/16	11-27-29	21⅝	17⅞	22⅜	14⅞	17	11
1	⅜	200	½	½	½	Atlantic Lobos		.....	...	....	.....	..	..	..	..	..	..
25	14	50	17	17	17	Borne Scrymser		$1,000,000	$25	$1SA	10-15-29	59	50	56½	44½	46½	25
69	54⅛	100	54⅛	54⅛	54⅛	Buckeye Pipe Line		$10,000,000	$50	$1Q	12-14-29	60	45	76	53	74½	55
184⅞	140⅛	100	147	147	147	Chesebrough Mfg.		$3,000,000	$25	$1Q*	12-30-29	126	76½	161	117	210	130
17¾	10	500	10	10	10	Continental Oil (V.T.C.)		$36,057,840	$10	....	12-15-27	22⅝	16¼	23	16	29	10
65¾	30½	50	32¼	32¼	32¼	Cumberland Pipe Line		$1,500,000	$50	$1Q	12-15-29	137	89	114	67	75¾	40
54¾	39	100	39	39	39	Eureka Pipe Line		$5,000,000	$100	$1Q	11- 1-29	68½	47	88	64⅛	70½	42
7	2½	300	5	5	5	Galena Signal Oil		$16,000,000	$100	....	.....	13½	3½	13	4¼	6½	3
119	78	400	89	88½	89	Humble Oil & Refining		$74,103,300	$25	50cQ	1- 1-30	68½	54	114¾	59¼	128	74⅛
320	303	100	320	315	315	Illinois Pipe Line		$20,000,000	$100	$10SA	12-16-29	182	123¾	290½	176½	340½	260
30	18⅛	600	18⅞	18⅞	18⅞	Imperial Oil of Canada (new)	(sh)	26,421,768	N.P.	12½cQ	12- 2-29	64¾	37¾	104	56¾	41	22
41	31¾	200	32⅞	32⅛	32⅛	Indiana Pipe Line (new)		$3,000,000	$10	50cQ‡	2-15-30	94½	61	91⅞	74⅜	41⅞	26
24	17½	1,700	18⅛	18	18⅛	International Petroleum	(sh)	14,247,088	N.P.	12½cQ	12-16-29	29	28¼	55	35	30⅜	15
22⅜	15⅛	600	17	17	17	National Transit		$6,362,500	$12.50	25cQ‡	12-16-29	24	13½	32⅜	19⅜	25⅛	10½
21⅜	10⅛	300	14⅞	13½	14⅞	New York Transit		$1,000,000	$10	40cQ†	1-15-30	44½	31¼	75	38½	17½	10
54	35½	50	37	37	37	Northern Pipe Line		$2,000,000	$50	$2SA	1- 2-30	100	70	69	56½	63	41
		No Sales				Ohio Oil Co.		.....	...	....	.....	..	..	..	..	..	..
		No Sales				Ohio Oil (new W.I.)		$60,000,000	$25	5cQ‡	12-14-29	67⅞	52	84	58½	79⅞	64⅛
32	17	200	21	21	21	Penn Mex Fuel		$10,000,000	$25	50cQ	12-14-29	39	12	84	28	44½	20
33	10⅜	200	10⅜	10⅜	10⅜	Solar Refining		$4,000,000	$25	$1.25SA	12-20-29	..	..	..	..	50	29
20⅞	13	100	18¼	18	18	Southern Pipe Line		$1,000,000	$10	5cQ	.....	27¼	15½	19	15	22½	13
45⅞	35	200	37	37	37	South Penn Oil (new)		$30,000,000	$25	50cQ	12-30-29	41½	35	71⅞	36¾	60¼	35⅛
65	35	100	45¼	45¼	45¼	Southwest Pennsylvania Pipe Lines		$1,750,000	$50	$1Q	1-10-29	83	55½	102	70	70	60
59⅞	47⅝	2,100	49⅜	49⅛	49⅛	Standard Oil of Indiana		$348,175,069	$25	62½cQ‡	12-16-29	81½	64⅜	95⅞	70⅞	63	45
40½	30⅛	1,300	31¼	30¾	31¼	Standard Oil of Kentucky		$25,654,516	$10	40cQ	12-16-29	130	111½	179¾	122¼	46⅞	29
48⅞	44⅛	200	48¼	48½	48½	Standard Oil of Nebraska		$4,649,225	$25	62½cQ‡	12-20-29	49½	40	54⅞	39⅞	50¼	40
108½	75	200	75	75	75	Standard Oil of Ohio		$14,000,000	$25	62½cQ	1- 2-30	87½	72	134	71	129	60
10	7	100	7	7	7	Swan-Finch Co.		$861,466	$25	....	12- 2-29	21	14½	23½	16	18	10
97⅞	76¼	3,200	78⅞	78⅛	78¼	Vacuum Oil Co.		$126,180,350	$25	$1Q	12-20-29	..	..	111	72	133¾	75

*Plus 50 cents extra. †Plus 10 cents extra. ‡Plus 25 cents extra. x Ex-dividend.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended September 3 Sales	Week ended September 3 High	Week ended September 3 Low	Week ended September 3 Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
31½	18	600	24¼	24	24	Amerada Corp.	(sh)	922,075	N.P.	50cQ	1-31-30	37⅝	27⅝	43⅞	27⅛	42⅝	17½
37	15¼	200	18	17	18	American Republic Corp.	(sh)	209,180	N.P.	....	3-20-29	82½	35⅛	85	51⅛	64⅜	12½
51	32½	50	41	40	40	Associated Oil		$57,260,300	$25	50cQ	12-31-29	50¼	35	53⅜	37½	47¼	34½
51⅜	30⅛	2,400	33⅞	33¼	33¼	Atlantic Refining		$66,763,775	$25	25cQ	12-16-29	131⅜	104	66⅜	50	77⅞	30
34	20½	700	22⅜	22⅛	22⅛	Barnsdall Corp. A		$56,546,600	$25	50cQ	12- 7-29	35½	20¾	54	20	49⅛	20
30½	18⅜	2,700	19½	19¼	19¼	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	3-31-27	..	..	..	..	47⅛	18
71⅛	38⅝	800	42	40⅞	41½	General Asphalt	(sh)	413,333	N.P.	50cQ	.....	96¾	65	94⅞	68	94⅜	42¼
116⅞	52¼	3,200	76½	74⅞	75	Houston Oil		$24,968,600	$100	....	.....	175¾	60⅛	167	79	109	26
32	19⅜	30,000	25½	24¾	25⅛	Independent Oil & Gas	(sh)	1,362,295	N.P.	50cQ	1-31-30	32¾	17⅝	38⅜	21¾	39⅜	17¾
28⅜	8¾	1,500	11¼	11	11⅛	Indian Refining		$12,565,070	$10	....	5-31-24	12⅛	7⅝	39⅝	9	53	13⅛
29½	21¼	200	27⅛	27⅛	27⅛	Lago Oil & Transport	(sh)	3,992,122	N.P.	....	5- 1-27	37¾	20½	39⅛	27⅜	38⅜	16½
12	8	300	9⅛	9	9⅛	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	18½	10	19¾	9⅜	18	7
10⅜	4½	100	4½	4½	4½	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	22¾	12	25½	12½	18½	5⅛
37	16⅛	2,900	22	21½	21⅝	Mexican Seaboard	(sh)	1,244,383	N.P.	....	12-15-20	9¼	3	72	4⅝	69⅜	8¼
33	22⅛	1,300	23⅝	23	23	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	50cQ	12-15-29	39⅜	25½	44½	25⅛	39⅞	22⅛
2½	⅞	100	1	1	1	Middle States ctfs.		$23,736,130	$10	....	7- 1-23	3¾	1⅝	7⅜	2⅜	5⅛	¾
64¼	51⅝	400	55½	54	54	Pan American P. & T.		$50,084,700	$50	....	10-20-27	65⅞	40⅛	50⅞	38¼	69	40½
67½	50½	2,000	56½	54½	54⅝	Pan American P. & T. "B"		$121,110,650	$50	....	11-15-24	66⅜	40¼	58⅞	37¾	69¼	40½
		No Sales				Pan American Western "B"		400,000	N.P.	....	1-30-27	37⅞	16¾	28⅜	15½	18½	13⅝
12¾	4⅛	300	5⅞	5¾	5¾	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	18⅞	8	21¾	11½	15¼	3
80	47½	100	70	70	70	Panhandle P. & R. pfd.		$2,564,400	$100	....	7- 2-23	83	54	108	70	76	47½
44¾	29⅛	30,800	34	33	33	Phillips Petroleum	(sh)	2,593,075	N.P.	50cQ	1- 2-30	60¼	36¼	53⅞	35¼	47	24¼
2½	1	300	1⅛	1	1	Pierce Oil Corp.		$29,622,831	$25	....	.....	1⅛	½	5¼	½	3⅜	1
7⅛	2¼	200	4⅝	4⅝	4⅝	Pierce Petroleum	(sh)	2,500,000	N.P.	....	.....	5½	2½	7	3½	5⅞	½
54	33¾	200	35	34⅞	35	Prairie Oil & Gas		$60,848,000	$25	50cQ*	12-31-29	55½	45⅝	68	46	65⅝	40½
60	44	300	45	44¾	44¾	Prairie Pipe Line		$101,250,000	$25	75cQ†	12-31-29	190	130¾	280	172	65	45
11⅞	6½	300	7¼	7¼	7¼	Producers & Refiners		$37,438,950	$50	....	9-15-23	33⅞	16¾	29⅞	16	25⅞	4
40	30	10	30	30	30	Producers & Refiners pfd.		$2,845,350	$50	....	5- 1-25	50	36⅞	49⅝	41	46¾	25½
27¼	19½	1,000	20	19⅞	20	Pure Oil		$75,959,250	$25	37½cQ	12- 2-29	33½	25	31⅝	19	30¾	20
28¼	14¾	2,100	15¼	14⅞	15	Richfield Oil		$52,410,875	$25	50cQ	11-15-29	28⅝	25⅜	56	23	49⅝	20
25⅜	15	4,900	16¼	15⅞	16	Rio Grande Oil	(sh)	1,236,270	N.P.	$2A	7-25-29	..	..	37½	32	42½	15
56½	45¾	600	49½	49	49¼	Royal Dutch, N. Y.	(sh)	611,303	$1.873	....	9-13-29	54½	44¼	64	44⅝	64	43⅛
48⅜	40⅛	60	42¼	42¼	42¼	Shell Transport & Trading Co.		£23,985,000	£1	$1.45	7-23-29	48⅝	40½	47⅞	41⅜	51½	40⅝
25½	14	1,000	15	14⅜	14⅜	Shell Union Oil	(sh)	13,066,497	N.P.	35cQ	12-31-29	31¾	23⅝	39¼	23¼	31⅜	19
37	18	200	18½	18½	18½	Simms Petroleum		$8,353,620	$10	40cQ	12-14-29	25⅜	14¼	27¼	18⅛	40⅛	15
32	20	5,800	21⅝	21¼	21¼	Sinclair Consolidated	(sh)	5,500,000	N.P.	50cQ	1-15-30	22⅜	15	46¾	17⅜	45	21
112¼	108	200	110⅜	110⅜	110⅜	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	11-15-29	104½	97	110	102½	111	103
42	27⅛	1,400	27⅝	27⅜	27⅜	Skelly Oil		$27,441,250	$25	50cQ	12-16-29	37⅜	24⅛	42⅝	25	40½	28
75	55½	1,600	60½	60⅜	60½	Standard Oil of California	(sh)	12,594,098	N.P.	62½cQ	2-15-30	60⅜	50⅜	80	63	81⅞	51½
49	29	200	30	30	30	Standard Oil of Kansas		$8,000,000	$25	50cQ	12-16-29	20⅞	14⅝	37¾	15	33¾	18
84⅞	58	13,400	69⅜	68½	68⅝	Standard Oil of New Jersey		$634,999,200	$25	25cQ*	12-16-29	41⅜	35⅛	59⅝	37⅜	83	49
40⅜	30	2,700	31¼	31	31	Standard Oil of New York		$445,223,675	$25	40cQ	12-16-29	34⅛	29¾	33¼	28¾	48⅛	31¾
70	50	200	58	57¾	58	Sun Oil	(sh)	1,416,869	N.P.	25cQ	12-16-29	34⅞	30	77	31½	68⅜	55
9⅜	2	600	2⅝	2⅝	2⅝	Superior Oil Corp.	(sh)	776,979	N.P.	....	12-20-20	..	..	..	..	24	5¼
60½	50⅛	1,300	51⅞	51⅝	51⅞	The Texas Corp.		$246,204,900	$25	75cQ	1- 1-30	58	45	74¾	50	71⅞	50
14½	8¼	800	8⅜	8¼	8¼	Texas Pacific Coal & Oil Co.		$9,304,890	$10	2½%A‡	12-31-29	18⅞	12	26⅝	12⅛	23⅞	9½
31	19½	200	30¾	28¾	30¾	Tide Water Oil	(sh)	2,191,759	N.P.	20cQ	12-31-29	29⅛	19	41½	19⅝	40	14
94⅞	83	100	91	91	91	Tide Water 5% pfd.		$19,947,000	$100	$1.25Q	11-15-29	90⅛	85	100⅛	86	97½	85⅛
17¾	10¾	2,100	14¼	13⅞	14	Tide Water Associated	(sh)	5,560,424	N.P.	30cS	2-15-30	19⅛	15¾	25	14¾	23½	10
89¾	78	200	84¾	84¾	84¾	Tide Water Associated pfd.		$73,284,500	...	$1.50Q	2- 2-30	..	..	..	..	90⅞	74⅛
24	16¼	3,500	17⅝	17⅜	17½	Transcontinental Oil	(sh)	3,742,029	N.P.	....	.....	10⅜	3¾	14¾	7¼	15¼	5⅛
50	37	300	40⅞	40⅝	40⅞	Union Oil of California		$104,342,375	$25	50cQ	11- 9-29	56½	39⅝	58	42⅜	57	42⅛
38½	25¼	200	25¾	25⅝	25⅝	Union Tank Car	(sh)	1,254,048	$100	$1.25Q	12- 2-29	127½	94	128½	110	163¾	121⅞
27	11	200	11⅜	11⅜	11⅜	Warner-Quinlan	(sh)	632,948	N.P.	50cQ	1- 2-30	34½	24½	44⅞	26	42⅞	15
		No Sales				White Eagle Oil & Refining	(sh)	505,100	N.P.	50cQ	1-20-30	27½	20	38	20⅛	38	25
21	11½	200	15¼	15¼	15¼	Wilcox Oil & Gas	(sh)	428,907	N.P.	....	5-10-28	..	..	..	..	29¾	12⅞

*Plus extra dividend of 25 cents. †Plus extra dividend of 50 cents. ‡Payable in stock. x Ex-dividend.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been splits in the stock.

ROCKY MOUNTAIN AREA

(Continued from Page 131)

cored to 3,618 feet. It is now going through the Dakota sands, the first time these horizons have been tested on the top of the structure. The Beaver Divide Oil Co.'s No. 2, Section 17-27-95, Little Buffalo Basin, had 2,000,000 feet of gas at 903 feet and is setting 8¼-inch preliminary to drilling into the second Wall Creek sand. A few months ago this company's No. 1, Section 18, was completed as a small oil well at 1,100 feet. The Prairie Oil & Gas Co. drilled several wells in this district a few years ago and found considerable gas. The new interests are drilling a series of wells to supply gas for a carbon black paint. The Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, Pilot Butte, is coring in an 8-inch hole at 4,160 feet in the upper Sundance formation, but has not yet encountered the sand. The Texas Production Co.'s No. 1 State, SW SW, Section 36-34-95, Alkali Butte, is bottomed at 4,472 feet and underreaming 6⅝-inch and cleaning out.

Carbon County

Producers & Refiners Corp.'s No. 4, Section 7-26-89, Wertz Dome, is bottomed at 3,386 feet and fishing for tools, and its No. 3, SE NW, Section 2-19-88, Hatfield Dome, is drilling at 4,196 feet in brown sandy shale. C. E. Bivens and others' No. 1 Red Feather, SE, Section 35-13n-92, Baggs structure, is drilling at 700 feet and estimated to be 60 feet off the objective gas sand. It had a show of gas at 260 feet.

Lincoln County

Midwest Refining Co.'s No. 1 Larcher, SE SE, Section 25-37-117, Little Grays River, is drilling at 2,349 feet in red mud.

Park County

Producers & Refiners Corp.'s No. 2, SW NW NE, Section 14-48-102, Pitchfork Dome, joint with the California Exploration Co., a subsidiary of the Honolulu Consolidated Oil Co., was completed at 3,903 feet and is pumping. The 6¼-inch casing, the last string run, is at 3,371 feet, the top of the Embar. The hole probably was drilled into the Madison and at last reports was standing full of oil. Production is estimated at 250 bbls. The oil in the upper horizons was 20 gravity, a heavy black crude. This is the discovery well on the structure, No. 1 being lost before it reached the objective. Kirk & Arnott's No. 1, SW, Section 24-58-98, Frannie Dome, was completed at 2,770 feet in the Embar-Tensleep and is swabbing 300 bbls. per day. The well is two locations north and one east of the discovery well. It is on a 20-acre tract which was not turned over to the Midwest Refining Co. under operating agreements. Midwest's No. 31 Frannie Oil, SW cor. NE, Section 25-58-98, is bottomed at 2,938 feet and preparing to run 8⅝-inch casing, and its No. 31 Rosenberg, SW cor. SE, Section 24-58-98, is underreaming at 2,310 feet to shut off water. The Texas Production Co.'s No. 1 Freeman, NW SE, Section 30-51-100, Oregon Basin, is standing after cementing the 8¼-inch at 3,806 feet. Continental Oil Co.'s No. 26 Elk 2, SE NE, Section 24-58-100, Elk Basin, cemented 8¼-inch at 2,360 feet and is standing.

Big Horn County

Producers & Refiners Corp.'s No. 3 Government, SW NW NW, Section 24-56-98, Garland Dome, has been shut in as a gasser at a total depth of 4,234 feet. It is a joint operation with the Kinney-Coastal Oil Co. and was started in 1928 to test the lower horizons for oil. It topped the Embar at 3,940 feet and encountered heavy gas pressure in that formation and also found gas in the Tensleep. However, it encountered all the troubles in the catalog after reaching a depth of 4,234 feet that fall and since then repeated efforts have been made to get the hole in shape for testing the Madison, but this proved to be impossible. Total gas is approximately 10,000,000 feet. The Ohio Oil Co.'s No. 1 Easton, NW NW, Section 33-56-97, which had a flow of 58,000,000 feet of gas in the top of the Madison lime at 3,887 feet, has killed the gas, cemented 7⅝-inch and is now drilling at 3,945 feet. This was the first time the Madison was tested on the structure and deepening is for the purpose of testing the lower Madison for oil. Ohio's No. 1 Pryde, Section 25-56-97, Byron Dome, cemented 6⅝-inch at 2,310 feet.

Hot Springs County

Midwest Refining Co.'s No. 8 Weeks, NW SE, Section 6-44-98, Wagonhound, is drilling at 3,100 feet in the red beds and had a show of free oil at 3,060-90 feet.

WYOMING	
Salt Creek	24,830
Frannie	140
Big Muddy	2,020
Oregon Basin	2,500
Dutton	140
Elk Basin	690
Byron	60
Warm Springs	100
Lovell	20
Ferris	40
Grass Creek	2,070
Hamilton	980
LaBarge	1,900
Lance Creek	120
Lost Soldier	4,090
Osage	1,390
Poison Spider	260
Rock River	2,180
Simpson Ridge	50
Teapot Dome	20
Dallas-Derby	230
Hudson	420
South Casper Creek	810
Total	45,060
MONTANA	
Cat Creek	1,150
Kevin-Sunburst	5,850
Pondera	2,020
Lake Basin	50
Border	500
Total	9,570
COLORADO	
Moffat	1,075
Fort Collins	1,253
Florence	528
Iles	1,056
Tow Creek	369
Boulder	25
Rangley	50
Total	4,356
NEW MEXICO	
Hogback	430
Rattlesnake	1,193
Table Mesa	91
Artesia	835
Cap Rock (Maljamar)	547
Jal	1,408
Hobbs High	36,880
Lea City	5,604
Miscellaneous (Lea County)	299
Getty	205
Total	47,492
Grand total	106,478
Previous week	115,449
Difference	8,971

MONTANA

Dr. A. L. Day of the Carnegie Institute, is in charge of an interesting test being drilled in the Norris Geyser Basin of Yellowstone National Park. This well will be put down in an effort to get more knowledge on underground temperatures in this part of the Rocky Mountain region.

The Ohio Oil Co. has an oil producer in its second well on the Dry Creek Dome, Carbon County. The oil was found in the Dakota sand at 5,515 feet and the well flows by heads. The production will make around 65 bbls. now, but is expected to increase after further handling and possibly a shot. The Dry Creek Field is proven as a commercial gas field and this strike of a high grade light oil makes it look like an oil field also.

In the Sunburst Field, four new wells were completed resulting in two new oil producers, one gasser and one dry hole. The Colonel Oil Co.'s well, No. 6, on Section 27-35-3, on the west side of the field, is good for 100 bbls.; the Monopeg Oil Co.'s No. 1 on Section 28-35-1, will make a small producer of about 15 bbls. after a shot. The Dakota-Montana drilled in a 1,000,000-foot gasser on Section 20-34-1, on the Adams tract and the Minnesota Petroleum Co. has a dry hole for its No. 7 on Section 29-35-2.

On the Canadian side of the line the Taylor-Vanalta well looks good for an 80-bbl. producer. The Ohio Oil Co. is cementing back in its No. 2 Farbo in an effort to save the gas that was struck in the Sunburst sand.

The State of Montana leased 2,320 acres of wildcat lands the past week to various prospectors; Frank Merris and J. C. Hudnall of Denver, obtained 640 acres each in Rosebud County. The Producers & Refiners Corp. leased 160 acres in Teton County, C. F. Swenson of Ferdig leased 320 acres in Toole County, and Louis Wolk of Cut Bank has 400 acres in Glacier County. The State of Montana's share of federal royalties for this year is $40,530.97 being the 37½ per cent that the Federal Government pays back to the State as royalty from oil lands.

Rocky Mountain Production

Daily average pipe line runs from the various pools in the Rocky Mountain area for the week ending September 6:

CEMENTING PROBLEMS ON THE GULF COAST

(Continued from Page 30)

the cementer may check the water-cement ratio at any time, or during intervals of the cementing process, by reading the percentage water, for any amount of cement up to 26 sacks. The water reading is taken directly from the displacement meter.

This same graph may also be of help to the field men in as much as they can calculate the average water-cement ratio for the whole process.

Graph No. 2 was made primarily for the field men; but may be used in conjunction with the cementer's work. Should any superintendent want the cement to be of certain consistency, the cementer, by getting the amount of water used per sack, can read directly in pounds per gallon the consistency of slurry. Field men usually specify the mixture of cement to be placed around the casing to be of a certain weight per gallon, and so desiring this, may instruct the cementer to use a certain amount of water per sack of cement to get this required mixture.

There are other ways of using these graphs. Bearing in mind that you must know the exact amount of cement used in each case, you can either get the percentage water by knowing the amount of water used, or you can get the amount of water required for a certain percentage from Graph No. 1; and from Graph No. 2 you can get the amount of water to use, desiring a certain consistency or knowing the amount of water you can calculate the average consistency of the cement slurry.

The third graph was made separate from the first two, in as much as it serves to eliminate any subtraction of figures during the cementing process, as the water meters on the cementing truck cannot be set back to zero. This graph contains a good average water-cement ratio with two variants, (1) gallons of water used, (2) against sacks of cement mixed. This graph enables the cementer to maintain an average slurry throughout the whole cementing process which is requested by the field men as their choice of being most efficient to obtain a maximum strength for a given length of time. Although this graph represents a 0.68 water-cement ratio, it is necessary that this ratio be increased or decreased depending on the job involved.

All water percentages are calculated on basis of per cent by weight of weight of cement used.

Formula Used

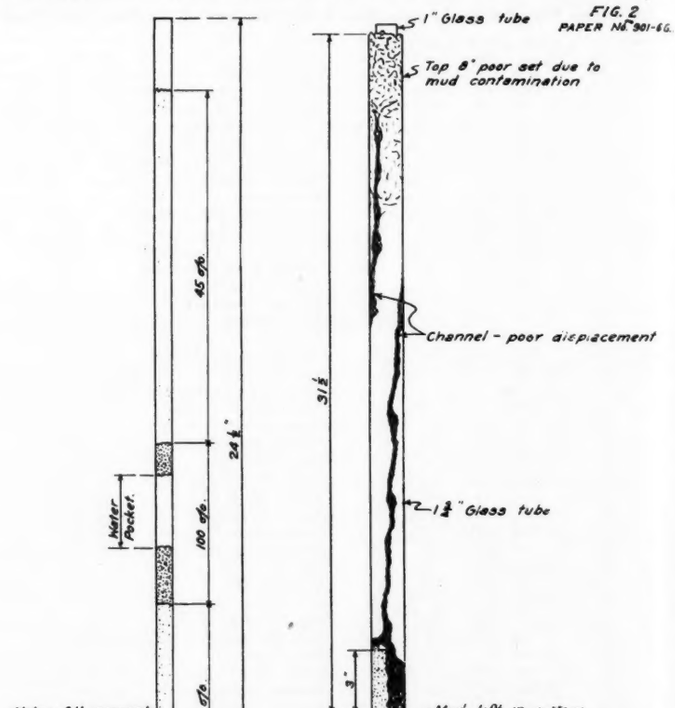
The following formula was used in calculating values for Graph No. 2:

$$\frac{\text{Wt. of Cement + wt. of } H_2O}{\text{Vol. of } H_2O + \text{ab. vol. of cmt.—lbs./gal.}}$$

$$\text{Gals. in cu. ft.} — (7.48)$$

(Absolute volume used — .48)

Note that in calculating weight per gallon of slurry, an absolute volume of .48 was used. This brought out the question as to the effect of specific gravity or absolute volume on weight per gallon. A check on specific gravity of 3.4, 3.2 and 3.0 shows an error of approximately .2 pound per gallon for .1 change in specific gravity. On the basis of 5 gallons per sack cement, this would produce an error of 4 per cent or a .1 change in specific gravity would produce about one-quarter pound per gallon change in the weight of slurry. For greater variation in specific gravity, say .2, the effect is appreciable, being about .5 gallon of water per sack of cement and a variation of about .5 pound per



SKETCHES SHOWING CONDITION OF CEMENT AFTER SETTING UNDER VARIOUS WELL CONDITIONS.

gallon of slurry or a 10 per cent error. The latter datum is based on 16-pound slurry. For 15-pound slurry, the variation is less; and for 17-pound slurry, it is greater. Therefore, in computing data for graphs, the specific gravity of the cement generally used was accepted as basis of calculation.

The writers recently noted in an article entitled "Relation of Absolute Volume of Neat Cement to Oil Well Cementing" by C. P. Parsons, of Halliburton Oil Well Cementing Co., the statement that the volume of neat cement mixtures decreased from 2 gallons per sack to 3½ gallons per sack, then increased in volume directly proportional to the amount of water added or in straight line. Table Nos. 2 and 3 show Mr. Parson's theoretical and actual measurement data. The decrease in volume may be the result of either or both a chemical or physical combination of water and cement. Mr. Parsons' statement is based on actual measurements as against theoretical calculations. This all goes to prove that the problem is being thoroughly studied.

Taking Cores

The above statement as to failures, based on the appearance of cores, soon brought out the questions as stated. A representative core can always be taken if a little care is exercised by driller. It the core barrel is rotated at a high rate of speed, the cement will be ground into very fine particles which together with the high heat of friction will form a thick white paste, but such a practice is rank carelessness. Before taking cement core, half of the cement left in pipe should be drilled out; then with a core barrel, preferably the old style basket type, rotate very slowly, especially at start, and maintain slow circulation throughout operations. Be sure barrel is closed before coming out of hole, then note manner in which balance of cement drills out of casing.

Both the small and basket type core barrels have been used on the same cement job with each one showing the condition of hydrated cement. The smaller types chip the cement into small bits, but the texture can readily be determined. The basket type usually takes a larger and more representative core and for this reason is preferred.

The reasons for selecting the visual observance of core over pressure and bailing as the most accurate means of judging a cement job were not haphazard. Referring to the first paper, it will be remembered that a number of cores had been analyzed chemically. Water enters into various combinations with cement and a drying or burning test reveals nothing. After combining, the water is driven off at different temperatures.

A sample of cement core was heated in a closed retort to a cherry red heat, vapors of which were passed through a weighed amount of calcium hydroxide. Only a trace of carbon dioxide was found, whereas, a similar test using hydrochloric acid to break down the carbonate was run in the same retort and approximately 10 per cent CO_2 was present. It is evident from these facts that loss on ignition cannot be accepted as amount of CO_2 in one form or another, and it is also true that a small amount of CO_2, possibly from air or water, enters into combination with cement as per the following tests:

Neat Pats

25% water by weight of cement.. 2.25% CO_2
50% water by weight of cement.. .79% CO_2
75% water by weight of cement.. .50% CO_2

Note—Used HCl and retort as described above.

Therefore, a CO_2 determination is accurate as far as the amount of CO_2 is concerned, but the source is still problematical. It may be a combination of carbonates in mud contamination and carbonation. Increase of SiO_2 and alumina are indications of contamination. These facts reveal the limitations of chemical analysis. There is no doubt that a close inspection of core will determine whether the cement is impervious to water and the extent of both water and mud contamination.

Checking Cement Jobs

There are three methods of checking cement jobs—pressure, bailing and coring. All methods have been tried, both with pipe on and off bottom. In testing several jobs with pressure, fluid was pumped back into formation with no returns showing at surface. A cement job could not be condemned on the strength of such results. Several jobs have been bailed down after drilling cement plug and allowed to stand for 24 hours, all of which proved successful on the strength that fluid level remained the same. But in the Gulf Coast where heaving shale and sluffing of walls of hole are common, the bailing test is not always positive.

The general practice of the Humble Oil & Refining Co. is to set pipe on bottom and rathole into pay sand, therefore, a pressure or bailing test would mean nothing. Taking everything into consideration, the inspection of cores seems to be the best method of checking a cement job. In so far as the cement is depended on for a shutoff, the condition of cement after hydration would determine whether or not it will prevent infiltration of water.

Through water and gas analyses, the theory that failures were due to disintegration resulting from action of acid, sulphur or sulphates, was disproved. Failures were experienced where no acid, sulphur, or sulphates existed, and in no case were any of these chemicals found in sufficient quantity to cause a disintegration of cement.

Petrographic Examination

Chemical analysis of several neat pats and cores indicated that carbonation or reversion of lime in cement back to carbonate was not likely, and that the most probable source of carbonate was from mud contamination. Realizing the uncertainty of the above conclusion, Prof. L. S. Brown conducted a petrographic examination of 55 cement cores. An abstract of his final report follows:

"It has been seen that no different mineral combinations have been developed in any of the cements. The important point therefore becomes the relation of these minerals to each other, or, the fabric developed. Summarizing, there have been three principal types observed: (1) The good set, with thin branching, interlocking crystals of calcium hydroxide separating and including gelcovered hydrating and hydrated grains of all kinds and sizes; (2) the fair set, with overdeveloped and too regular crystals of calcium hydroxide and a minimum of amorphous material; (3) the poor set, with the hydroxide occurring in small, regular and equant grains of hydroxide in a maximum of amorphous material.

"The second fabric above, often seen in these cements, is not genetically associated with mud, though most of the specimens show some mud. It is generally true that cements with this fabric are brittle. Under the microscope, cleavage is observed prominently in the hydroxide crystals, whereas cleavage is rarely or never observed in the stringerlike crystals of the good sets. Possibly this excellent cleavage is responsible for the brittleness. The overdevelopment of the crystals, as has been before noted, is probably due to excessive water in the cement.

"The third fabric above is usual in the cements with high mud contamination. A maximum of amorphous material has also been noted. It appears possible that the early entrance of the gel from the mud prevents the free migration of calcium hydroxide solution, with the result that crystallization takes place from an abundance of points. It has been noted before that the gels of the hydrated cement grains are definitely chemical compounds, with definite physical characters, including cohesiveness and hardness. The gel-like material of mud, on the other hand, is always soft while moist. In drying it loses volume enormously, and in consequence the cement with well-admixed mud never becomes hard under water and after drying becomes loose and crumbly.

"The above conclusions concerning the specific effect of mud on the cement fabric seem tenable and well founded. It must be remembered, however, that they are only tentative, and are suggested only because more competent experimental evidence is not available. It is to be hoped that detailed experiments may ultimately be carried out, yielding more accurate and dependable information."

Conclusions

The principal cause of defect or failure in the cements examined is contamination by drilling mud.

Small amounts of drilling mud are capable of doing considerable damage.

Other things being equal, equivalent mud contamination does more harm in a thin mix than in a tight mix.

An important contributory cause of defect or failure has been excess water in the mix.

Small amounts of mud seem to prevent settling of the cement particles. Hence, the cement is very weak and highly porous.

Carbonation and mud contamination are so closely associated that the carbon dioxide may be suspected to be dissolved in the mud.

Carbonation takes place only through moist contact of carbon dioxide with the calcium hydroxide of the cement.

Extensive carbonation is impossible in a properly mixed and set cement.

There is no reason why the Gulf Coast cement jobs should be failures if the cement is clean and properly placed.

It is probable that many cement jobs

TABLE 1—CEMENT ANALYSES
Specialty Cements

Fineness % through 200 mesh screen	Per cent water	Average tensile strength 1 day	3 days	7 days	28 days	Time of setting Initial hrs. min.	Final hrs. min.
84	23	425	1,265	878	....	5:40	8:25
97	23	390	725	815	....	1:35	4:30
98	24	400	840	860	....	3:00	7:00
..	21	503	695	807	....	2:30	6:00
Ordinary Portland Cements							
89	23	425	702	675	....	4:00	7:00
..	23	372	708	796	....	...	...
84.2	23	444	681	....	....	1:45	3:30
88	23	400	733	....	....	3:00	5:00
86.4	23	372	708	796	729	3:00	5:00
88	23	565	900	916	....	4:40	6:45
87	23	383	487	....	....	3:15	7:10
87.2	23	405	798	817	766	2:30	7:00
88.6	23	488	688	735	813	2:15	5:30
87	23	423	674	760	....	2:30	5:15
88.4	23	420	....	....	....	2:30	5:15
90	23	401	665	....	....	2:15	4:00
93	22	485	760	915	....	3:30	7:30
84	22	413	608	750	....	4:00	7:30
..	22	465	590	758	765	...	...
90	25	412	798	1,002	....	3:00	7:00
88.4	25	405	670	746	....	2:30	5:15
90	20	455	775	955	....	4:00	7:30
89	20	435	800	665	....	4:00	6:30
Specialty Cements							
..	42	288	520	468	....	...	...
..	42	260	390	450	....	...	...
..	42	332	428	493	452	...	...
Ordinary Portland Cement							
..	42	125	237	433	....	...	...
87	42	253	374	....	....	2:30	5:15
..	42	170	350	475	....	...	...
..	42	140	....	377	....	...	...
88.4	42	149	372	455	....	...	...
..	42	138	255	....	562	...	...
..	42	148	232	270	338	...	...
..	42	93	210	342	498	...	...
86.2	42	220	376	466	....	2:00	5:00
..	40	213	315	390	....	...	...

TABLE 2—THEORETICAL VOLUME OCCUPIED BY NEAT CEMENT MIXTURES
(Based on absolute volume of a sack of cement = .484 cubic feet or 829.44 cubic inches)

Water-cement ratio Gal./sack	Per cent by weight	Water in cu. in.	Air voids (cu. in.)	Excess water after air is displaced (cu. in.)	Total vol. of mix./sack of cement (cu. ft.)
0	0	0	898.56	0	1.00
2½	22.0	574	324.56	0	1.00
3	26.5	695	203.56	0	1.00
3½	30.9	805	93.56	0	1.00
4	35.3	920	0	21.44	1.012
4½	39.7	1,035	0	136.44	1.085
5	44.1	1,150	0	251.44	1.145
5½	48.6	1,262	0	363.44	1.209
6	53.0	1,390	0	491.44	1.283
6½	57.4	1,490	0	591.44	1.342
7	61.8	1,610	0	711.44	1.411
7½	66.2	1,720	0	821.44	1.475

TABLE 3—VOLUME OCCUPIED BY A SACK OF CEMENT AT VARIOUS WATER-CEMENT RATIOS
(Based on cut and try experiments)

Water-cement ratio Gal./sack	Per cent by weight	Volume in cu. ft.	Per cent difference from calculated vol. shown in Table 1
3	26.5	.96	—4
3½	30.9	.94	—6
4	35.3	1.01	0
4½	39.7	1.06	—1.1
5	44.1	1.13	—1.3
5½	48.6	1.24	3.2
6	53.0	1.32	3.0
6½	57.4	1.39	1.4
7	61.8	1.46	3.0
7½	66.2	1.50	5

TABLE 4—EFFECT OF MUD CONTAMINATION ON TENSILE STRENGTH OF NEAT CEMENT

No.	Per cent mud	Per cent water	Lbs. per sq. in. tensile strength 1 day	3 days
1	15	50	38	100
2	10	50	55	158
3	5	50	70	175
4	3	50	83	175
5	1	50	88	188

TABLE 6

Well	Size casing	Depth	Cement
A	15½"	166'	150 sacks High Early St. cement.
	10"	1,288'	700 sacks High Early St. cement.
	6⅝"	3,175'	500 sacks High Early St. cement.
B	20"	41'	
	13⅜"	1,005'	200 sacks Portland plus 85 gallons accelerator.
C	15½"	158'	150 sacks High Early St. cement.
	10"	1,211'	800 sacks High Early St. cement.
	6⅝"	3,180'	500 sacks High Early St. cement.
D	15½"	190'	150 sacks High Early St. cement.
	10"	1,190'	400 sacks High Early St. cement.
	6⅝"	3,078'	500 sacks High Early St. cement.

TABLE 5

Size casing—	No. jobs	Aver. depth	Per cent good	Per cent fair	Per cent poor	Per cent failure	Average water-cement ratio
20"	3	180'	100	...	...	...	.578
15½"	63	162'	98.5	1.5	...	....	.745
13⅜"	16	1,305'	75	12.5	12.5	....	.728
10⅛"	108	1,105'	91.7	4.6	3.7	....	.684
9⅝"	21	3,861'	71.5	19.1	4.75	4.75	.656
6⅝"	123	3,155'	79.7	10.6	9.0	....	.731
8"	1	2,822'	100	...	...	....	.505
5"	2	5,244'	50	...	...	50	.613
4¾"	2	4,018'	100	...	...	....	.605
Total ave. of all districts..	338						.722

293 Good 86.7% Good
25 Fair 7.4% Fair
18 Poor 5.3% Poor
2 Failures .6% Failures

outside of the Gulf Coast have been failures, but have not been cored and observed.

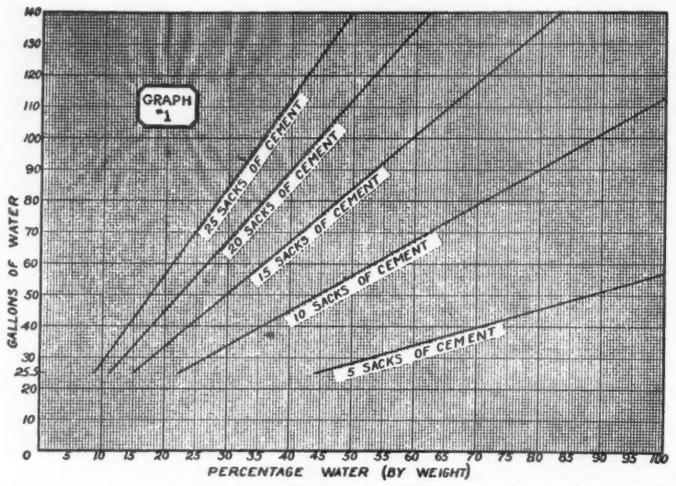
To insure best results, the cements used in cementing wells must be mixed with as little water as possible and still be easily handled by the pumps.

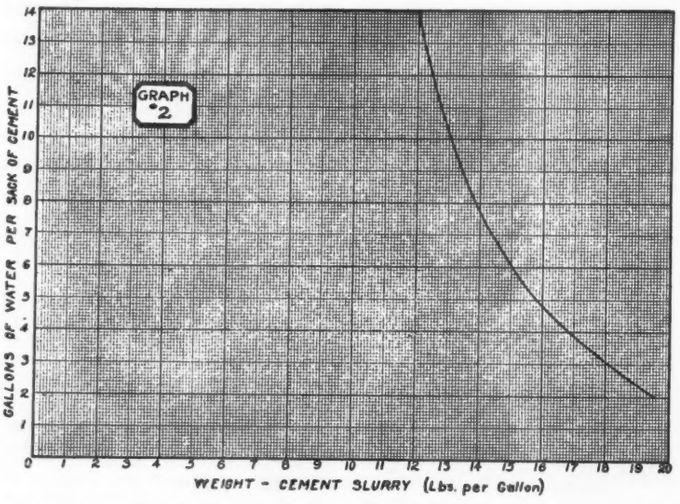
Conclusions as to the specific effect of muds on cement mixtures are only tentative, but seem well-founded.

Causes of Failures

This further substantiation of previous data resulted in a definite decision that the majority of Gulf Coast cement failures are due to high water content, nonuniform mix of slurry and rotary mud contamination with other minor items.

Mud contamination can be attributed to one thing, i.e., improper displacement of fluid from pipe and annular space. The best way to combat this trouble is to insure complete segregation of cement while in pipe, and thinning and circulating fluid before starting. If no dangers would be incurred, it is best to set under pure water, otherwise use 20 or 30 bbls. of water just ahead and immediately following first and second plugs. Use a float collar one joint off bottom and tight fitting plugs that will give a positive shutoff of pumps when plugs come together. Pumping by second plug should be particularly guarded against.





Channeling will take place more or less as long as wells are drilled crooked. Sketch No. 2, Figure 2 shows the possibility of channeling even under ideal conditions. The procedure carried out here was identical with field practices, using rotary mud (10.5 pounds per gallon), two plugs, a 50 per cent water mix, and the rate of displacement was about the same as that used in practice. Please note that although the inside tubing was only 3 inches off bottom, all of the mud was not displaced at this point. Channeling was evidenced in two places but they did not connect or follow through from top to bottom. Also note that the top 20 or 25 per cent of the column of cement was badly contaminated with mud.

Table No. 4 shows the effect of mud on strength of cement.

At the present time our field research department, under the supervision of Dr. H. D. Wilde, Jr., and G. E. Cannon, is conducting a series of very interesting fluid displacement tests. It was hoped that their complete report could be given here, but delays have made it impossible.

Data on Wells

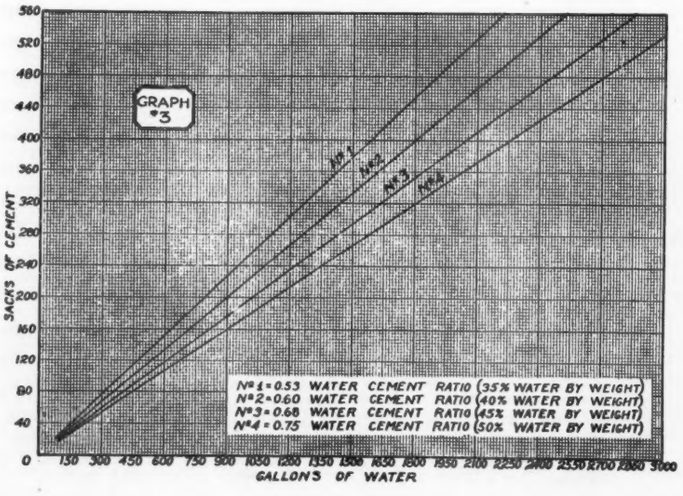
Table No. 5 is a recapitulation of data as sumbitted on form entitled "Data on Cemented Wells," for a period of one year. Note the average water-cement ratio of .722 or approximately 5.25 gallons of water per sack and also that out of 338 cementing jobs, there were less than 1 per cent complete failures, and only 14 per cent that were likely to be only temporary shutoffs.

Table No. 6 is casing record of four wells at Raccoon Bend that caused more or less trouble in drilling. Well B blew out and cratered around the surface casing as a result of cement failure. This well represented a tremendous loss and was finally abandoned.

Wells C and D also blew out but the cement did not fail and both wells were soon brought under control. These wells are producing pipe line oil today.

Well A is a striking comparison to Well B in that the blowout caused a crater to form around the surface pipe, but the well was finally successfully completed and is producing pipe line oil.

In conclusion, these concrete facts have proved that the practice of recommendations resulting from our cement investigation has been a beneficial digression from previous uncontrolled methods.


GRAPH #3
No 1
No 2
No 3
No 4
SACKS OF CEMENT
No 1 = 0.53 WATER CEMENT RATIO (35% WATER BY WEIGHT)
No 2 = 0.60 WATER CEMENT RATIO (40% WATER BY WEIGHT)
No 3 = 0.68 WATER CEMENT RATIO (45% WATER BY WEIGHT)
No 4 = 0.75 WATER CEMENT RATIO (50% WATER BY WEIGHT)
GALLONS OF WATER

STANDARD OIL GROUP DIVIDEND PAYMENTS

(Continued from Page 146)

Company's entire capital stock consists of 10,400 shares of $100 par preferred. It is controlled by Associated Oil. Regular dividend of $1.50 was declared payable October 6 to stock of record September 26.

Decline in Profits

Profits of 24 oil companies for the six months ended June 30, last, aggregated $56,957,955, compared with $82,060,416 in the similar period of 1929, a decline of $25,102,461, or 30.6 per cent. Compared with $47,911,730 reported for the like 1928 period, profits this year increased $9,046,225, or 18.8 per cent. The increase for the first six months of 1929 over the 1928 period was $34,148,686, or 71.2 per cent.

When contrasting results for the first six months this year with those for the like period of 1929, consideration must be given to the fact that 1929 was one of the most profitable years in oil history, while conditions so far this year have been generally unfavorable.

Following table compiled by the Wall Street Journal gives six months' results of 24 companies compared with results for the similar periods in 1929 and 1928:

Company—	1930	1929	1928
Amerada Corp.	$ 401,060	$ 354,114	$ 1,057,907
American Republic Corp.	46,577	164,713	†88,361
Atlantic Refining Co.	2,819,823	8,862,409	5,689,987
Barnsdall Corp.	3,367,440	4,115,233	1,003,328
Colonial Beacon Oil	†1,316,164	*530,509	*141,467
Continental Oil Co.	*2,643,820	*2,200,526	†1,787,526
General Asphalt Co.	206,680	461,760	†339,241
Houston Oil Co.	1,014,417	779,422	726,843
Louisiana Oil Refining Co.	*47,810	*743,273	*588,058
Mexican Seaboard Oil	565,666	‡14,489	†‡527,377
Mid-Continent Petroleum Corp.	¶4,826,751	‡5,987,398	‡3,248,666
Panhandle Prod. & Ref.	†36,542	99,457	†64,155
Phillips Petroleum Co.	§‡10,200,525	‡8,510,807	‡6,519,977
Simms Petroleum	†49,762	417,747	†209,842
Sinclair Consolidated Oil	‖‡13,447,155	‖‡16,449,250	‡9,452,955
Shell Union Oil Corp.	†280,977	*9,509,659	*6,043,236
Skelly Oil Co.	1,283,784	3,198,936	456,344
Sun Oil Co.	3,658,157	3,637,540	2,513,929
Texas Pacific Coal & Oil	†647,553	‡969,655	‡717,150
Tidewater Associated	5,595,635	5,042,020	5,799,925
Transcontinental Oil	*2,362,617	*1,715,822	*422,966
Union Oil Co.	5,150,000	7,000,000	5,800,000
Warner Quinlan	†167,361	1,072,872	707,310
Wilcox Oil & Gas	514,291	222,784	38,184
Total	$56,957,955	$82,060,416	$47,911,730

*Before Federal taxes. †Net loss. ‡Before depreciation and depletion. §Net profit $4,638,399 after Federal taxes, depreciation, depletion and amortization. ¶Net profit $2,697,059 after reserves and taxes. ‖Net profit 1930 $3,251,709; 1929 net profit $6,196,195.

Continental Oil

When the $3 extra and regular 25-cent quarterly dividend declared by Texon Oil & Land Co. is paid on October 1, Continental Oil Co. will receive approximately $1,800,000. This, together with the initial 25-cent quarterly dividend paid by Texon Oil & Land on July 1, will bring total income received by Continental Oil Co. from this source for the year to about $1,950,000. This will be equivalent to slightly more than 43 cents a share on the 4,473,103 shares of no-par Continental Oil Co. stock which were outstanding at the close of the June 30 quarter.

Control of Texon Oil & Land was acquired by Continental Oil Co. in May, 1929.

For the year ended December 31, 1929, Texon Oil & Land reported net profit of $2,494,363 equivalent to $2.64 a share on 943,723 no-par shares of capital stock. The company had at that time cash and call loans totaling $4,895,537, while current assets amounted to $5,454,537 against current liabilities of $294,676, leaving net working capital of $5,160,190.

Bandini Petroleum

Bandini Petroleum Co. reports for six months ended June 30, 1930, net income of $1,301,675 after depreciation, depletion and taxes, equivalent to $1.96 a share (par $1) on 662,500 shares of stock. This compares with $427,456 or 64 cents a share in the first six months of 1929.

UPHAM OPTION REPORTED

G. E. Barrett & Co. of New York are reported preparing to exercise an option and purchase the Upham Gas Co. properties in the Panhandle, Wichita Falls and Enid areas. The sale is said to be for the account of Moody-Seagraves interests of Houston. Consolidated Gas Utilities Corp., a subsidiary which transports gas from the Shamrock-McLean area of Wheeler County, Texas, to Texola, in Beckham County, and to Enid, is said to be also involved in the deal.

COLON OUTPUT

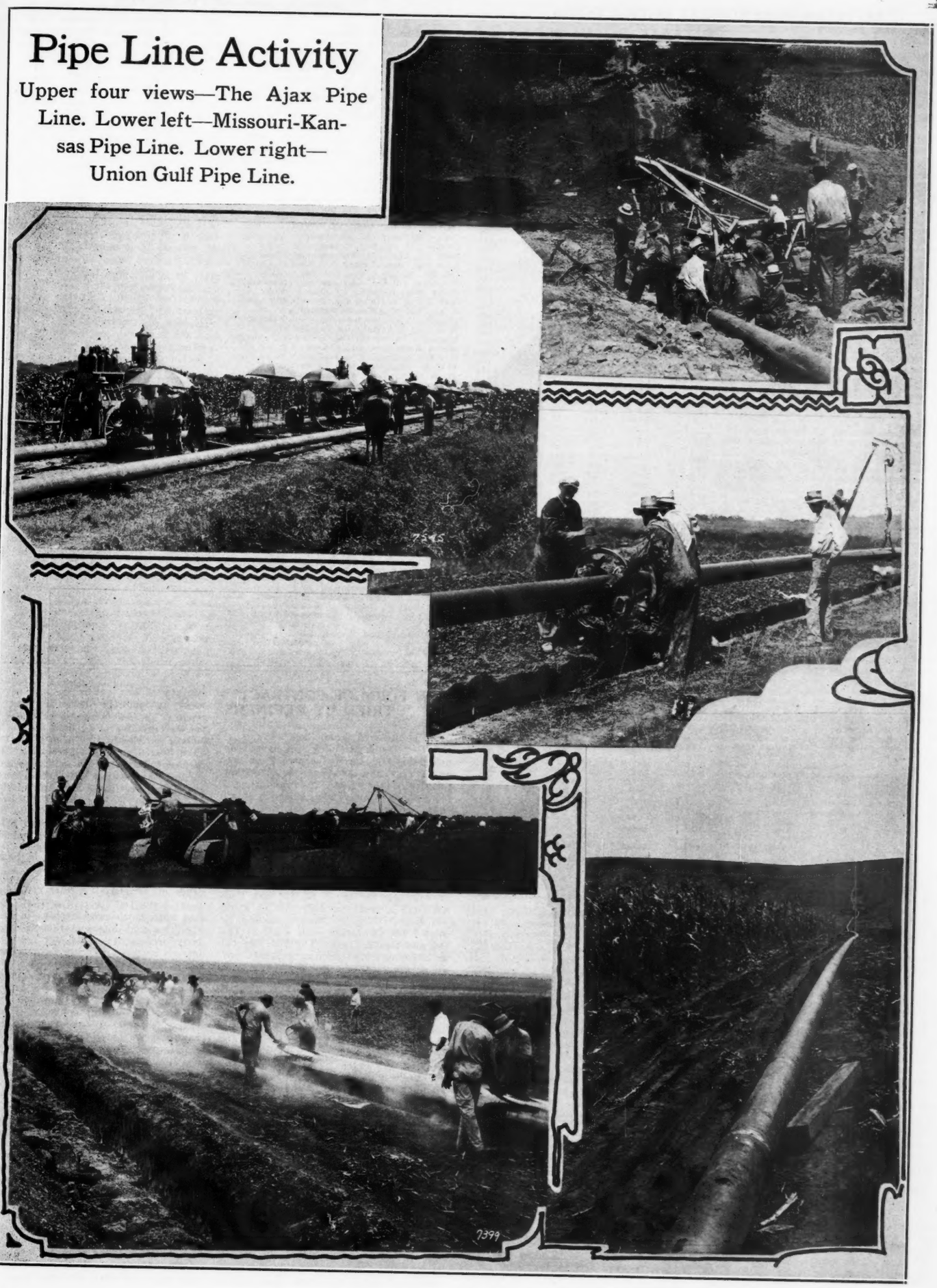
NEW YORK, Sept. 8.—Colon Development Co., Venezuelan operating subsidiary of the Colon Oil Corp., reports for the week ended August 29 production of 95,594 bbls. of crude petroleum, an average of 13,656 bbls. daily. This compares with 98,330 bbls., or 14,047 bbls. per day, in the previous week.

PRINCE OF WALES' OIL LANDS

A message to the "Wainwright Star" from Calgary, Alberta, Canada, states: Increased oil and mineral rights in about 3,560 acres have been granted the Prince of Wales in Alberta. The provincial government has approved the transfer at a price of $3 an acre, and the 3,560 acres carries oil and other mineral rights.

Pipe Line Activity

Upper four views—The Ajax Pipe Line. Lower left—Missouri-Kansas Pipe Line. Lower right—Union Gulf Pipe Line.



REFINERY RUNS LOWEST IN TWO YEARS

(Continued from Page 29)

fineries is the resumption of operations in The Texas Company's plant in Shreveport.

Kansas

Except for the shutting down of the Peerless Oil Refining Co.'s plant in Chanute, following the appointment of a receiver for the company on August 19, there is no material change in the operating schedules of the Kansas refineries. The date of resuming operations in this plant is indefinite.

REFINERY OPERATIONS IN OKLAHOMA
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Sept. 1	Runs Aug. 1
Anderson-Prichard Oil Co., Cyril	5,000	3,000	4,500
Barnsdall Refineries, Inc., Barnsdall	6,000	3,600	3,500
Barnsdall Refineries, Inc., Okmulgee	10,000	5,000	3,500
Bell Oil & Gas Co., Grandfield	4,500	1,400	1,500
Black Gold Refining Co., Oklahoma City	1,500	650	750
Capitol City Refining Co., Oklahoma City	2,500	200	(*)
Champlin Refining Co., Enid	16,000	13,000	13,000
Citizens Refining Co., Seminole	1,000	(*)	(*)
Continental Oil Co., Sapulpa	10,000	1,600	1,500
Continental Oil Co., Ponca City	30,000	18,000	18,000
Cushing Refining & Gasoline Co., Blackwell	1,800	1,500	1,500
Cushing Refining & Gasoline Co., Cushing	3,500	3,000	3,000
Deep Rock Oil Corp. (Shaffer), Cushing	10,000	10,000	10,000
Eason Oil Co., Enid	5,000	3,500	3,500
Electrol Refining Co., Oklahoma City	3,000	500	(*)
Empire Oil & Refining Co., Cushing	5,000	(*)	4,200
Empire Oil & Refining Co., Okmulgee	4,000	4,000	4,000
Empire Oil & Refining Co., Ponca City	8,000	8,000	8,000
Garber Refineries, Inc., and Omar Refining Co., Garber	3,500	2,800	2,600
Globe Oil & Refining Co., Blackwell	7,500	6,000	6,000
Globe Oil & Refining Co., Cushing	15,000	6,000	6,000
Illinois Oil Co., Cushing	3,000	(*)	(*)
Imperial Refining Co., Ardmore	5,000	3,000	3,000
Independent Oil & Gas Co., Okmulgee	5,000	3,300	3,300
Johnson Oil Refining Co., Cleveland	6,000	5,500	6,000
Mid-Continent Petroleum Corp., West Tulsa	40,000	20,000	20,000
Mid-Kansas Oil & Gas Co., Boynton	2,500	(*)	2,000
Mid-Kansas Oil & Gas Co., Bristow	5,000	(*)	3,500
Northwestern Refining Co., Tonkawa	3,000	(*)	(*)
Peacock & Peeveta Refining Co., Oklahoma City	3,000	(*)	(*)
Peppers Gasoline Co., Covington	1,000	700	700
Producers Oil Co., Bristow	2,500	1,300	1,300
Producers & Refiners Corp., West Tulsa	6,000	3,500	4,000
Pure Oil Co., Ardmore	5,000	2,000	2,000
Pure Oil Co., Muskogee	9,000	6,000	6,000
Remington Oil Co., Wewoka	2,000	(*)	(*)
Rock Island Refining Co., Beckett	3,500	3,500	3,500
Sinclair Refining Co., Muskogee	1,000	600	700
Sinclair Refining Co. (Pierce) Sand Springs	8,000	5,200	5,000
Sun Oil Co., Yale	5,000	5,000	5,000
Sunray Oil Co., Allen	3,000	2,300	2,400
The Texas Company, West Tulsa	15,000	15,000	15,000
Texas Pacific Coal & Oil Co., Wynnewood	2,500	1,500	1,800
Tidal Refining Co., Drumright	15,000	10,000	12,000
Western Oil Corp., Beckett	2,000	1,500	1,500
White Oak Refining Co., Allen	8,000	3,500	2,500
Wilcox Oil & Gas Co., Bristow	5,000	2,700	3,000
Wirt Franklin Petroleum Corp., Ardmore	4,000	2,300	2,200
Yale Oil Corp., Yale	1,000	1,000	900
Total	323,800	191,650	202,350

*Shut down.

REFINERY OPERATIONS IN KANSAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Sept. 1	Runs Aug. 1
Barnsdall Refineries, Inc., Wichita	4,000	2,200	2,000
Derby Oil Co., Wichita	7,500	6,000	4,500
Eldorado Refining Co., Eldorado	3,500	2,700	3,000
Golden Rule Refining Co., Wichita	1,500	800	900
Kanotex Refining Co., Arkansas City	10,000	3,000	2,500
Independent Oil & Gas Co., Kansas City	6,000	5,000	5,000
National Refining Co., Coffeyville	6,500	4,500	4,500
Peerless Oil Refining Co., Chanute	3,000	(*)	1,800
Shell Petroleum Corp., Arkansas City	22,000	15,000	15,000
Sinclair Refining Co., Coffeyville	12,000	9,000	8,000
Sinclair Refining Co., Argentine	9,500	5,000	5,000
Skelly Oil Co., Eldorado	23,000	13,200	13,400
Standard Oil Co. of Kansas, Neodesha	20,000	9,000	10,000
Vickers Petroleum Co., Potwin	3,500	2,500	2,500
White Eagle Oil Corp., Augusta	10,000	10,000	10,000
Total	142,000	87,900	88,100

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Sept. 1	Runs Aug. 1
American Refining Properties, Wichita Falls	6,000	2,700	3,000
Archer Refining Co., Megargel	2,000	500	500
Central Texas Refining Co., Angus	4,000	800	1,000
Central Texas Refining Co., Minerva	2,000	600	800
Continental Oil Co., Wichita Falls	6,000	3,300	4,000
Dale Oil & Refining Co., Electra	4,000	3,600	3,600
Empire Oil & Refining Co., Gainesville	5,000	3,600	3,600
Falls Refining Co., Wichita Falls	2,000	1,000	1,000
Gulf Refining Co., Fort Worth	10,000	6,000	6,000
Humble Oil & Refining Co., Breckenridge	2,000	1,500	1,400
Humble Oil & Refining Co., Chilton	4,000	1,500	1,400
Humble Oil & Refining Co., Neches	5,000	1,800	2,500
Iowa Park Producing & Refining Co., Iowa Park	2,500	800	1,000
LaSalle Petroleum Co., Burkburnett (Noble)	3,500	1,000	1,000
Macmillan Petroleum Co., Isom	8,000	3,500	5,800
Magnolia Petroleum Co., Fort Worth	12,000	4,000	3,000
Magnolia Pet. Co. (White Eagle Plant) Fort Worth	6,000	2,200	2,200
Magnolia Petroleum Co., Corsicana	5,000	3,800	3,800
Mid-Kansas Oil & Gas Co., Fort Worth	5,000	(*)	3,500
Olney Oil & Refining Co., Olney	2,500	(*)	2,000
Oriental Oil Co., Dallas	5,000	2,700	3,000
Orient Petroleum Co., Wichita Falls	2,500	1,000	1,000
Panhandle Refining Co., Wichita Falls	5,000	3,400	3,600
Petroleum Refractionating Co., Pampa	5,000	4,800	5,300
Phillips Petroleum Co., Isom	15,000	11,000	11,000
Primrose Refining Co., Wichita Falls	2,500	1,500	1,500
Simms Oil Co., Dallas	5,000	2,700	3,000
Southland Refining Co., Olney	1,000	150	(*)
Star Refining & Producing Co., Fort Worth	1,800	500	500
Superior Refining Co., Tiffin	2,000	(*)	(*)
Tarrant Refining Co., Grand Prairie	2,500	(*)	(*)
Taxman Refining Co., Wichita Falls	2,500	2,500	2,500
The Texas Company, Dallas	16,000	16,000	16,000
The Texas Company, Amarillo	4,000	4,000	3,500
Tidal Western Refining Co., Burkburnett	3,000	2,000	2,000
Texas Pacific Coal & Oil Co., Fort Worth	3,000	1,750	1,800
Texas Pacific Coal & Oil Co., Caddo	1,200	800	800
Waggoner Refining Co., Electra	3,400	800	2,500
Wilcox Oil & Gas Co. (Pampa Refining Co.), Pampa	4,000	2,700	2,700
Total	180,900	100,500	111,800

*Shut down.

REFINERY OPERATIONS IN ARKANSAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Sept. 1	Runs Aug. 1
James H. Berry & Sons, Waterloo	2,000	1,200	1,200
Henry H. Cross Co., Smackover	6,000	4,000	4,000
Houston Oil Co., Camden	3,500	3,100	2,000
Kettle Creek Refining Co., Pearson	5,000	1,700	1,500
Lion Oil & Refining Co., El Dorado	12,000	6,000	7,000
Macmillan Petroleum Products Co., El Dorado	1,800	1,550	1,550
Ouachita Valley Refining Co., El Dorado	2,000	800	850
Root Refining Co., El Dorado	10,000	6,330	6,300
Simms Oil Co., Smackover	3,000	2,000	2,000
Total	45,300	26,680	26,400

REFINERY OPERATIONS IN WEST TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Sept. 1	Runs Aug. 1
Amarillo Producers & Refiners Corp., Pyote	3,000	(*)	(*)
Big Spring Refining Co., Big Spring	2,500	1,200	1,500
Big Lake Refining Co., Big Lake	2,000	(*)	(*)
Bluebonnett Oil Refining Co., Wickett	5,000	(*)	(*)
Burford Oil Co., Pecos City	6,000	4,500	4,900
Coltex Refining Co., Colorado	10,000	6,500	6,200
Cosden Oil Co., Big Spring	15,000	8,000	8,500
Deer Oil Corp., Brownwood	2,000	400	400
Deer Oil Corp., Luling	2,500	600	600
Del Rio Refining Co., Del Rio	5,000	2,000	2,200
Grayburg Oil Co., San Antonio	6,000	1,800	1,650
Great West Refining Co., Big Spring	8,500	(*)	2,700
Gulf Oil & Refining Co., Sweetwater	5,000	5,000	5,000
Huber Refining Co., Kingsmill	3,000	400	(*)
Humble Oil & Refining Co., San Antonio	5,000	2,000	1,900
Humble Oil & Refining Co., McCamey	15,000	9,000	9,900
Magnolia Petroleum Co., Luling	3,000	(*)	1,300
Misko Refineries, Inc., Laredo	1,500	500	500
Mid-Tex Refining Co., Midland	2,500	(*)	(*)
Pasotex Petroleum Co., El Paso	10,800	9,000	9,000
Pecos Valley Refining Co., Pyote	8,500	(*)	(*)
Pioneer Oil & Refining Co., Somerset	1,500	900	900
Richardson Refining Co., Big Spring	6,000	2,500	4,000
Rio Grande Oil Co., El Paso	6,000	2,000	2,000
San Angelo Refining Co., San Angelo	2,000	200	200
Sweetwater Oil & Refining Co., Sweetwater	2,000	200	200
The Texas Company, San Antonio	3,000	3,000	3,000
The Texas Company, El Paso	2,000	1,900	1,200
Tonkawa Petroleum Co., Pyote	5,000	1,300	1,500
Texas Mexican Oil & Refining Co., Laredo	1,000	300	300
Texas Petroleum Products Co., Somerset	1,500	900	900
Wickett Refining Co., Wickett	2,500	180	200
Total	151,300	64,280	76,250

*Shut down.

REFINERY OPERATIONS IN NORTH LOUISIANA
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Sept. 1	Runs Aug. 1
Bayou State Refining Co., Hosston	750	500	500
Crystal Oil Refining Corp., Shreveport	14,000	(*)	(*)
Dixie Oil Co., Superior	3,500	3,100	2,800
Louisiana Oil Refining Co., Shreveport, Bossier	24,000	17,100	17,000
Shreveport-El Dorado Pipe Line Co., Shreveport	10,000	7,000	7,200
The Texas Company, Shreveport	7,000	(*)	5,000
Total	59,250	27,700	27,500

*Shut down.

NEW FORM OF CONTRACT TRIED BY REFINERS

(Continued from Page 140)

Del Rey Oil & Refining Co. have been using this new form of contract for several weeks and although they are not identically the same the fundamental principle involved is characteristic of all three methods.

Del Rey Contract

The Del Rey Oil & Refining Co., which is buying all but a small part of the current production in the Playa Del Rey Field of Los Angeles Basin, has a contract which co-ordinates the price which it will pay for crude oil in that field with the average market price of 58-60 437 endpoint (U. S. Motor) gasoline as quoted for California each week in The Oil and Gas Journal. The Del Rey Oil & Refining Co.'s purchase contract provides that, "the price per barrel for crude oil delivered to buyer shall be based on the A.P.I. gravity of the said crude oil co-ordinated with the average market price of 58-60 437 endpoint (U. S. Motor) gasoline as quoted for California as shown under the caption Refinery and Crude Prices published weekly in The Oil and Gas Journal. Said prices above referred to, show the general market trend, usually showing the low and the high price for the week and in the event this practice is continued by the publishers of the said Oil and Gas Journal the average of the prices shown shall be determined weekly and then for the purpose of establishing the price of the crude oil delivered to buyer hereunder shall be averaged for the period of the calendar month for which said price is to be determined. The prices of 58-60 437 endpoint (U. S. Motor) gasoline above referred to, at the present time, do not include any tax on said gasoline and in the event that at any time or times during the term of this agreement that said price or prices does include any tax of any nature on said gasoline such tax shall be deducted from said price or prices before determining the price of gasoline to be used for the purpose of establishing the price of the crude oil delivered to buyer hereunder. It is the intention hereof to determine as accurately as possible the actual moving average, price f.o.b. refiner, of 58-60 437 endpoint (U. S. Motor) gasoline in order that the price to be paid by buyer to seller for crude oil delivered hereunder may be as accurately determined as possible."

Edington Witz Agreement

The Edington Witz Refining Co.'s new crude oil purchase contract differs from that of the Del Rey Oil & Refining Co. and while much more complex in its construction and interpretation it is similarly predicated on refinery sales. The latter's contract covering the purchase of crude oil provides a specific basis for the computation of crude oil prices predicated on the going price of U. S. Motor gasoline in California as published weekly by The Oil and Gas Journal. The governing factor in this contract is the prevailing price of 58-60 437 endpoint (U. S. Motor) gasoline as each change in gasoline prices is reflected in the price to be paid for crude oil at the well. If the going price for gasoline of this specification increases, the price of crude oil also increases and likewise a decline in gasoline prices is similarly reflected in a decline in crude oil prices. The Edington Witz company's crude oil contract provides that all oil purchased will be analyzed by the Four Point method and paid for on the basis of the average price received for each product monthly by the refinery less transportation costs from field to refinery and a deduction of 2½ cents per gallon for each gallon of gasoline contained in the crude oil as shown by the Four Point analysis.

The Edington Witz company's new purchase contract provides that, "each

shipment of oil shall be sampled and the second party (Edington Witz Refining Co.) shall analyze said oil by the Four Point method to determine the amount of gasoline contained in said oil, basing said gasoline content on the 90 per cent point of said Four Point method and shall also determine by analysis the amount of kerosene distillate, stove distillate and fuel oil in said oil. At the end of each month the second party shall calculate the average net price received by it at its refinery at Signal Hill, Long Beach, Calif., for all gasoline, kerosene distillate, stove distillate and fuel oil sold during the month, and the gross value of the crude purchased from first party each month hereunder shall be the total amount of the various products contained in said crude, as determined by the analysis hereinabove mentioned, multiplied by the average price received for said products each month by the refinery.

"From the gross thus calculated there shall be deducted the cost of transportation from well or wells to the refinery at Signal Hill and the cost of treating the oil, if any treatment be necessary, should it contain more than 3 per cent (3%) M.&B.S. A further deduction shall be made equal to 2½ cents per gallon of each gallon of gasoline contained in said crude as shown by the Four Point analysis hereinabove mentioned. The price thus arrived at shall be the net price which party of the second part shall pay to party of the first part for all crude delivered hereunder each month, such payments to be made by the second party to first party on or before the tenth day of each month for all crude delivered during the preceding calendar month.

"The price second party shall receive as a net price at its refinery for all gasoline sold through its bulk stations or through controlled or subsidiary companies, accounts, or distributors, shall not be less than the actual wholesale delivery price received from service stations, and/or other customers for gasoline, less 2 cents per gallon for distribution costs, and less the freight from refinery to point of distribution. On sales to other, the actual price received for gasoline from such sales net f.o.b. refinery shall be used, together with the above, to arrive at the average net sales price for gasoline as mentioned herein.

"If at any time the refinery shall sell finished kerosene instead of kerosene distillate, as mentioned herein, then the price for the kerosene distillate used to make such finished kerosene, and which price will enter into the average monthly sales prices hereinabove mentioned for kerosene distillate, shall be 1½ cents per gallon below the actual price received net at the refinery for such finished kerosene sales. The first party shall have the right to have a representative present at the time any analysis mentioned herein is made by second party to determine any of the points covered in this contract, should it so desire, and if there be any dispute between the parties hereto over any analysis, a duplicate analysis may be called for by either party to be made by a reputable commercial laboratory, the cost of which shall be borne by the party in error on the original dispute, and said independent analysis shall be the basis of the settlements arranged hereunder. The first party may at any time during business hours inspect the sales records of the second party, at the office of second party, if it so desires, to verify the statements of average prices received by second party in settlements of crude purchased hereunder.

"The second party (Edington Witz Refining Co.), during the life of this contract, shall at all times endeavor to secure the highest possible prices for its products consistent with good and honorable methods of merchandising, it being the intent of this contract that both parties shall work to the mutual benefit of each other in securing steady production for the refinery and as high and steady sales prices for refinery products, as it is possible with good merchandising to secure, to the end that both parties may be mutually and permanently benefited.

"If at any time oil offered for delivery hereunder shall contain less than 25 per cent of gasoline as determined by Four Point method hereinabove mentioned, second party, at its option, may accept said oil, or if at any time oil offered for delivery hereunder shall contain more than 3 per cent of water, sand or other foreign substances, as ascertained by the gasoline test hereinbefore referred to, second party will accept said oil and said second party may, at its option, accept said oil containing in excess of 50 per cent M.&B.S. content, and make deduction for all water, sand and other foreign substances as determined by said test, but is under no obligation to continue to accept such inferior oil; that is, acceptance does not establish a precedent."

ALLOWABLE PRODUCTION AT HOBBS IS PLACED AT 33,935 BBLS. DAILY

HOBBS, N. M., Sept. 6.—Hobbs production pursuant to the agreement made and entered into between the operators in the Hobbs Pool and the State of New Mexico, prorating the production for the Hobbs Pool, herein below is statement showing the allowable production of crude oil in barrels by units (by companies) effective 7 a. m., September 1, for period September 1 to September 15, 1930, inclusive.

The figures given below are arrived at by using the total units now in production (46) and the total average potential production of the entire field, 415,535 bbls., divided (25 per cent on acreage and 75 per cent on potential) into a maximum outlet of 33,935 bbls. of oil for the entire field. Using the above figures, the allowance on acreage is 181 bbls. per unit and potential allowance is .060378 of the average unit potential.

C. G. STALEY, Umpire.

	Average unit potential	Allowable prod. in bbls. Oil units	Potential production	Ttl. No. bbls.
Amerada Petroleum Corp.:				
No. 1 McKinley, Sec. 30-18s-38e	9,109	181	550	731
No. 2 McKinley, Sec. 30-18s-38e	15,520	181	937	1,118
No. 3 McKinley, Sec. 30-18s-38e	14,837	181	896	1,077
No. 1-A State, Sec. 32-18s-38e	19,246	181	1,162	1,343
Empire Gas & Fuel Co.:				
No. 1 Fowler, Sec. 31-18s-38e	11,081	181	669	850
Getty Oil Co.:				
No. 1 McKinley, Sec. 30-18s-38e	12,279	181	741	922
No. 2 McKinley, Sec. 30-18s-38e	20,250	181	1,223	1,404
No. 4 McKinley, Sec. 30-18s-38e	14,062	181	849	1,030
Gypsy Oil Co.:				
No. 1 Grimes, Sec. 32-18s-38e	17,625	181	1,064	1,245
No. 2 Grimes, Sec. 32-18s-38e	19,951	181	1,205	1,386
No. 3 Grimes, Sec. 32-18s-38e	21,972	181	1,327	1,508
Humble Oil & Refining Co.:				
Nos. 1 and 5 Bowers, Sec. 30-18s-38e	11,944	181	721	902
No. 2 Bowers, Sec. 30-18s-38e	6,772	181	409	590
No. 4 Bowers, Sec. 30-18s-38e	15,358	181	927	1,108
No. 3 Bowers, Sec. 29-18s-38e	13,200	181	797	978
Landreth Production Corp.-Texas Unity Oil Co.:				
No. 1 State, Sec. 33-18s-38e	2,768	181	167	348
Midwest Refining Co.:				
No. 31 Capps, Sec. 3-19s-38e	1,156	181	71	252
No. 24 Leach, Sec. 15-19s-38e	778	181	47	228
No. 1 State, Sec. 9-19s-38e	572	181	34	215
Nos. 1 and 13 State, Sec. 15-19s-38e	2,198	181	133	314
No. 8 State, Sec. 10-19s-38e	1,058	181	64	245
Nos. 24 and 36 State, Sec. 10-19s-38e	562	181	34	215
No. 13 Terry, Sec. 10-19s-38e	886	181	53	234
No. 33 Byers, Sec. 4-19s-38e	21,249	181	1,283	1,464
No. 33 State, Sec. 4-19s-38e	4,536	181	274	455
No. 3 State, Sec. 4-19s-38e	2,138	181	129	310
No. 8 State, Sec. 4-19s-38e	19,852	181	1,198	1,379
No. 26 State, Sec. 4-19s-38e	1,555	181	94	275
No. 26 State, Sec. 4-19s-38e	2,203	181	133	314
Ohio Oil Co.:				
No. 1 State, Sec. 30-18s-38e	9,137	181	552	733
No. 1 State, Sec. 9-19s-38e	.....	...	...	20
No. 1 State-Northrup, Sec. 32-18s-38e	8,364	181	505	686
No. 2 State-Indept., Sec. 32-18s-38e	5,896	181	356	537
No. 3 State-Indept., Sec. 32-18s-38e	13,413	181	810	991
Prairie Oil & Gas Co.:				
Nos. 1 and 2 Crump, Sec. 15-19s-38e	2,700	181	163	344
No. 1 Selman, Sec. 15-19s-38e	396	181	24	205
Shell Petroleum Corp.:				
No. 1 McKinley, Sec. 19-18s-38e	10,706	181	646	827
No. 2 McKinley, Sec. 19-18s-38e	17,042	181	1,029	1,210
Nos. 1-A and 2-A State, Sec. 32-18s-38e	10,287	181	621	802
No. 3-A State, Sec. 32-18s-38e	1,055	181	63	244
No. 1 Thorp, Sec. 10-19s-38e	1,074	181	64	245
Sun Oil Co.:				
No. 1 McKinley, Sec. 5-19s-38e	11,081	181	669	850
The California Co.:				
No. 1 State, Sec. 29-18s-38e	2,075	181	126	307
The Texas Company:				
No. 1 Selman, Sec. 15-19s-38e	377	181	22	203
No. 1-C State, Sec. 25-18s-37e	6,389	181	386	567
Texas Pacific Coal & Oil Co.:				
No. 1-G State, Sec. 24-18s-37e	9,331	181	564	745
Tidal Oil Co.:				
No. 1 Grimes, Sec. 29-18s-38e	21,496	181	1,298	1,479
Walker Oil Co.:				
Nos. 1 and 2 Terry, Sec. 10-19s-38e	.....	...	.....	500
Total	415,535	8,326	25,089	33,935

GASOLINE SPECIFICATIONS FOR USE IN AIRPLANES

(Continued from Page 139)

data are available which correlate laboratory tests with services performance in aircraft engines.

"It is possible to specify a gasoline which will not cause vapor lock nor poor distribution for a given type of equipment under given operating conditions. The exact limits for these requirements are much more difficult to specify however, and moreover, insufficient data are available showing the specific effects of distillation range on such important items as power output, and fuel consumption. The lack of such data can undoubtedly be attributed to the difficulty and expense of procuring the necessary information. Extensive programs of flight testing would be entirely too expensive for any commercial airline to undertake; and a conservative operator would hesitate to experiment with new fuels on a schedule passenger run. Aircraft operators are badly in need of the data outlined above, and they would greatly appreciate the assistance of some organization technically and financially in a position to render it."

SUN OIL TANKERS

WASHINGTON, D. C., Sept. 8.—Loans amounting to $1,265,625 for each of five motor oil tankers, representing three-fourths of the construction cost, have been signed by T. V. O'Connor, chairman of the Shipping Board. The loans provide for amortization over a period of 20 years. The tankers have approximately 9,000 gross tons each. These five tankers will be chartered to the Sun Oil Co.

REFINERS MAINTAIN PRICE ADVANCES

(Continued from Page 28)

a price of 6¼ cents was reported. Domestic buying of this grade and the higher gravities is not heavy and sellers are less disposed to be firm in their quotations than they are in the regular domestic grades.

An Oklahoma refiner is reported to have sold an additional cargo of 400 and 300 endpoint gasoline to an independent export buyer for delivery next month. The same refiner had previously sold two cargoes totaling approximately 6,000,000 gallons.

Kerosene

The 41-43 water white kerosene, the principal domestic grade, has advanced to a low of 3¼ cents with a price range up to 3¾ cents. The 42-44 grade is quoted one-quarter cent higher. In some sections of the Middle West and Southwest, the kerosene demand is having its normal increase for this season of the year. In other sections where the drought has worked a special hardship on farms, the kerosene demand has been reduced to a minimum. The same situation is reported by refiners who make a special grade of distillate suitable for tractors.

Furnace Oils

Quite a number of refiners are sold up on furnace oil to the extent that they will have little or no spot material to offer over the next few months. These concerns have contracted their output with prices based on published quotations. Probably the grade of furnace oil in greatest demand is a 32-36 straw color gas oil with a zero cold test and flash under 200° F. This grade is scarce at 2½ to 2¾ cents in Oklahoma with several buyers willing to pay the same price they would pay for a 36-38 or 38-40 straw distillate.

This gas oil generally higher has a higher B.t.u. rating than the higher gravity grades and where the burner is adapted to its use distributors get the usual retail price from consumers. It is said that in Chicago and several other cities in the Middle West where the oil burner salesmen have been active, the distillate demand will show a large increase this fall and winter.

Other grades of distillate are quoted from 2½ to 3½ cents depending on specifications.

Fuel Oil

The Chicago group of refiners, temporarily at least, are less active in the fuel oil market and this has encouraged some of the Mid-Continent refiners to believe that a better movement is in prospect. The low gravity grades, industrial grades, are still unchanged in price. In the higher gravities, the buyers generally insist on a low cold test.

Lubricants

Those in daily touch with the jobbing trade still complain of the price cutters who are offering all grades of Pennsylvania and Mid-Continent neutral oils, bright stocks and finished motor oils with price concessions. Some sellers, while not changing their general asking prices, have a policy of meeting these cut prices where regular outlets are involved.

Wax

The wax market appears to be stronger again after a slow-up in demand the first few days of September. The 124-126 grade in sacks is quoted at a low of 2 cents, with sales for October and November delivery reported as high as 2⅜ cents.

INSTALLS VENDING MACHINES

SHREVEPORT, La., Sept. 6.—Having been the first refiner in this territory to add tires, batteries and other accessories so as to make their filling stations a "one-stop" affair affording complete service to the motorist, Louisiana Oil Refining Corp. is going another step further and according to recent announcement will install automatic vending machines in all its stations.

The corporation is constantly adding to its outlets and now has over 1,000 owned, optioned, leased and controlled retail stations in addition to 150 bulk stations in Louisiana, Arkansas, Mississippi and East Texas.

Los Angeles Now Has Permanent Display of Oil Field Equipment

Upon completion of the new 180'x400' stucco building, the formal opening of a permanent Oil Equipment and Engineering Exposition was held on August 15 in Los Angeles, Calif.

E. G. Lenzner

The many representatives from foreign oil companies, as well as from those in the United States together with the various equipment manufacturers, were entertained by music, dancing and refreshments.

The main building is the world's largest building used exclusively for the exhibiting of oil equipment. Every facility is offered manufacturers of tools and machinery for use in drilling, production, transportation and refining to display their equipment at any time suitable to the oil company representative who wishes to inspect it. The service offered by the Permanent Exposition includes the complete registration of all visitors, a complete list of foreign buyers, a weekly list of foreign buyers who are visiting the fields and the free mailing out of circulars for exhibitors to all foreign oil companies and their important personnel.

The new exposition building with the surrounding grounds was erected to take care of the Second Annual Oil Equipment and Engineering Exposition as well as the permanent one. The floor area comprises 72,000 square feet or about 1¾ acres. It provides 245 well housed booths, the majority of which are 10'x20' with a few 10'x10' spaces. All derrick and heavier equipment displays will be set up on adjacent outside spaces which cover an area of more than 3 acres. Everything about the exposition has been designed to take care of increasing requirements and additions to the building will be made as they become necessary. The plant cost about $100,000.

Both the permanent and annual expositions are under the direction of E. G. Lenzner who managed the first annual exposition last March, which stirred international interest. A valuable service will be afforded to the exhibitors by the constant attendance of a man experienced in oil and gas operations and equipment. Representatives from foreign oil companies will be contacted when in the territory and will be transported to the permanent exposition at any time. This particular attention which is paid to the foreign oil industry offers a valuable service to the exhibitors in facilitating their export business. Appointments will be made for all visitors to meet the various equipment manufacturers who are showing their products.

A technical manager, W. J. Blankenship, will furnish an all-year service to the exhibitors and will be available at all times to show the equipment and explain its features. He will be familiar with each piece, but will not offer recommendations.

Late Fields

(Continued from Page 40)

the Wilcox sand at 6,697-6,713 feet, and 3,300,000 feet of gas. Before swabbing there was 3,000 feet of oil in the hole. Drilling has been resumed in hopes of increasing the oil. It is believed the gas is coming from the Simpson sand and the oil from the Wilcox sand. There was no water showing.

In the north extension to the Carr City Pool, Amerada Petroleum Corp.'s No. 1 Tiger, NW cor. NE SW, Section 3-8-5, Seminole County, was drilling in sandy dolomite at 4,125 feet with 2,500 feet of oil in the hole.

Prairie Oil & Gas Co.'s No. 2 Cryer, NW cor., Section 23-6-3, in the Wanette Pool, southern Pottawatomie County, had a hole full of water in sand at 3,583-85 feet and was shut down. It defines the production in the area.

The estimated daily potential production from the Konawa Pool, as of September 1, was 90,544 bbls. On the same date the Wanette Pool's estimated potential was 38,217 bbls. a day.

Prairie Oil & Gas Co. and Tom Slick Oil Co. announced a new wildcat location in McClain County, for No. 1 Perkinson, SW cor. NW, Section 22-7-2w. The wildcat test is on a 5,000-acre block that was assembled by Tom Slick Oil Co. several years ago.

Production from the Oklahoma City Pool for September 8 and 9 was as follows: On September 8 the field made 104,976 bbls. from 54 wells, with a total of 507 completed. On September 9 it made 128,135 bbls. from 60 wells, with a total of 510 completed.

The largest well completed in the Oklahoma City Field was the Indian Territory Illuminating Oil Co.'s No. 10 M. Sudik, SE cor. SW, Section 31-11-2w. The well flowed 3,674 bbls. the first 3 hours and 40 minutes from a total depth of 6,636 feet in Wilcox sand. Same company's No. 11 M. Sudik, NW cor. SW SW, Section 31-11-2w, was plugged back after finding water in the Wilcox sand. It was plugged back to 6,700 feet and the standard tools were being rigged up.

Other wells completed in the Oklahoma City Field were Wirt Franklin Petroleum Corp.'s No. 10 Theimer, NW cor. SE, Section 2-11-3w, which flowed 1,127 bbls. the first 13 hours after being plugged back to 6,500 feet from a total depth of 6,569 feet. Indian Territory Illuminating Oil Co.'s No. 6 Coppinger, NW cor. SW NW, Section 11-11-3w, which made 1,420 bbls. the first 24 hours, and No. 1 Magnolia Heights, NW cor. NE NW, Section 14-11-3w, which flowed 2,814 bbls. the first 16 hours from sand at 6,375-6,561 feet.

GULF COAST

HOUSTON, Tex., Sept. 9.—Yount Lee Oil Co.'s No. 31 State, East Hackberry, Cameron Parish, Louisiana, was flowing at the rate of 2,000 bbls. pipe line oil following its completion from a sand at 3,894 feet. Gravity is 20 degrees. The well offsets Calcasieu Oil Co.'s No. 2 Verdine. Victor Oil Co.'s No. 2 Gulf, south side of North Dayton, was completed flowing 1,500 bbls. of pipe line oil from a sand and shale formation at a total depth of 5,062 feet.

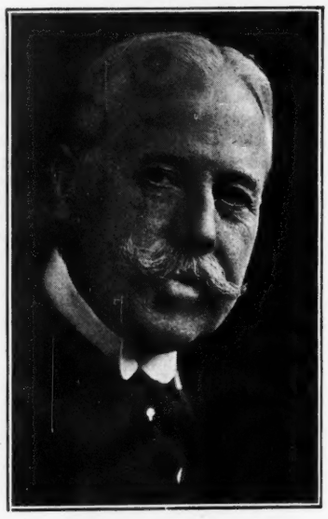
EAST CENTRAL TEXAS

FORT WORTH, Tex., Sept. 9.—C. M. Joiner's No. 3 Daisy Bradford in the Juan Ximenes Survey, central Rusk County, East Central Texas, has 1,109 feet of 6⅝-inch casing on the ground and is building three 500-bbl. storage tanks. Casing will be set and test made. Total depth is 3,594 feet.

WEST TEXAS

FORT WORTH, Tex., Sept. 9.—Southern Crude Oil Purchasing Co.'s No. 1 Cowden, Section 26, Block 43, Ector County, West Texas, is shut down at 4,237 feet with a slight increase in oil at 4,230 feet. Flowing 107 bbls. by heads in 14 hours it bailed down and set 24 hours for a water test.

HIGGINS RETIRES



Charles M. Higgins

Charles M. Higgins has retired as vice president and director of the Standard Oil Co. of New York. Mr. Higgins has been actively engaged in the oil business for the past 58 years.

CONTINUED WEAKNESS IN WESTERN COAST MARKETS

LOS ANGELES, Calif., Sept. 6.—The refined oil market in California, which has been weakening for the past month continued unsteady this week and a further softening is not at all improbable, although the concerted movement to absorb surplus stocks of crude and refined oil should have a tendency to stabilize conditions and may prevent a general decline. The local situation as far as gasoline is concerned has not reached the distress condition, but at the same time a number of independent refiners have been converting gasoline stocks into cash at a relatively low price.

One of the larger independent refiners recently contracted to sell several million gallons of domestic gasoline at approximately 8 cents per gallon and deliveries under this contract will continue for several weeks to come. The retail gasoline market in southern California is quite spotty and while several of the major companies in an effort to effect stabilization have discontinued service to a number of resellers who have persisted in cutting prices, independent gasoline can be bought as low as 12½ cents per gallon, including the usual state road tax of 3 cents per gallon.

Domestic consumption of gasoline and refined oils on the Pacific Coast during the past month has been considerably lower than anticipated and developments indicate that consumption during the coming winter months will likewise be below normal. Whether this will be reflected in lower prices, only the future can tell. All of the major companies reduced runs to stills during the month of July and a similar curtailment of operations continued through August.

BAR ASSOCIATION APPROVES

The Committee on Conservation of Mineral Resources of the American Bar Association approved the proposed legislation for Texas to permit co-operative or unit development of a single oil field and to prevent unreasonable waste of gas, under regulation of the State Railroad Commission, which also handles conservation matters.

SHREVEPORT MARKET IMPROVES

SHREVEPORT, La., Sept. 6.—Led by appreciable reductions in gasoline stocks, markets for refinery commodities produced in this territory seem to be looking up a little. At least, refiners have lost some of the gloomy outlook they have had for some time past.

Kerosene, that has been slow and backward in this territory, is reported somewhat improved with a slight increase in demand. Gas oils, which like kerosene are scarce, are no more plentiful and remain in good demand and there is also a better tone so far as fuel oils are concerned.

OKLAHOMA HIGH COURT CONSIDERS CURTAILMENT

(Continued from Page 29)

regard to the rights of others. To allow the storehouse of nature to be exhausted by the waste of the gas would be to deprive the State and its citizens of the many advantages incident to its use. That the Legislature may prevent this is well settled."

Upheld by Court

That the Legislature had power to confer this authority to promulgate rules for the conservation of oil and gas Mr. Murphy asserted had been upheld by the court in many cases. In the Quinton and Pawhuska cases it was upheld as regards natural gas; in the Oklahoma Light & Power case as regards the ice business; and in the motor bus act of 1923 as regards that business.

Moreover, ever since the conservation act was passed in 1915 the Legislature has appropriated funds for the inspection of oil, the inspection and plugging of wells, the logging of wells, and the enforcement of rules against the waste both of gas and of oil. That proved thoroughly the legislative intent. For 13 years, Mr. Murphy said, the act has been in effect, and been sustained by the court. Oil companies have for years acquiesced in the orders handed down.

Presumption of Constitutionality

Mr. Murphy quoted from the leading Oklahoma case along this line, by the criminal court of appeals in the case of Reeves vs. the State, in which it was held:

"Every presumption will be indulged in favor of the constitutionality of a statute. This presumption is especially strong where the statute has long been acquiesced in, or where great injury would result from declaring it void."

In the case of Shaw vs. Grumbine, two years ago, the supreme court held that an act of the Legislature would be to set aside only where it was clearly in conflict with the constitution. In the Quinton Relief Gas Co. case the court upheld the right of the Legislature to delegate authority to the corporation commission.

GULF COAST REFINED MARKET IS STRONGER

HOUSTON, Tex., Sept. 9.—A stronger domestic gasoline situation featured the Gulf Coast refinery market at the opening of the week. U. S. Motor fuel, which had dropped to as low as 6¾ cents, strengthened steadily the past week and today was quoted at a minimum of 7¼ cents for good material. From one source approximately 5,000 bbls. were being offered on a basis of about 7⅛ cents, Houston, but this was reported slightly off specification and not representative of the market.

TIDAL BUYS STORAGE

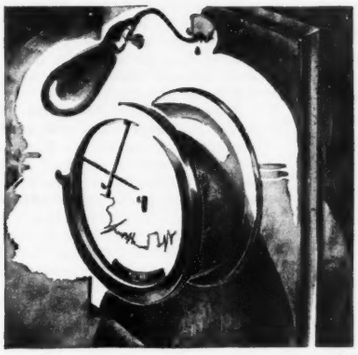
Tidal Refining Co., the Mid-Continent manufacturing subsidiary of the Tide Water Associated Oil Co., has purchased 10 new 80,000-bbl. steel tanks, loading rack, pump station and approximately 145 acres of land from the Landreth Production Corp. at McCamey, Tex.

This tankage was acquired in anticipation of storage of crude oil from the large flush production being developed by the Tidal Oil Co. in the Hobbs Field in New Mexico.

LOVEJOY ELECTED

John M. Lovejoy has been elected president of the Mexican Seaboard Oil Co. succeeding Harris Hammond, who was made chairman of the board. C. P. Watson was elected vice president.

THE RECORDING EYE _ _



Sees and Remembers

RECORDING Thermometers, Gauges and Tachometers are eyes which see the smallest fluctuations of temperature, pressure and speed throughout your industrial operations . . . and which remember, by means of ink-written charts, every detail of what actually happened at any minute of the day or night.

The charts these instruments write automatically reveal more than variations in temperature, pressure and speed. To the shrewd observer, they show the difference between good and poor operation. By analysis they reveal the causes of these differences in performance . . . and show how more profits can be made by improving the general level of operating efficiency.

May we show you the facts?

Consolidated Ashcroft Hancock Co., Inc.
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Subsidiary of Manning, Maxwell & Moore, Inc.

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American INSTRUMENTS

Specify Catalogs Desired:

American Dial Thermometers	G-5	American Recording Gauges	E-5	Consolidated American Safety and Relief Valves	Z-5
American Glass Thermometers	F-5	American Draft Gauges	B-5	Hancock Bronze Valves	WB-5
American Recording Thermometers	H-5	American Gauge Testers	D-5	Hancock Cast Steel Valves	WA-5
Ashcroft American Gauges	A-5	American Tachometers	J-5	Hancock Forged Steel Valves	W-5
American Temperature Controllers	R-5	Ashcroft Power Control Valves	M-5		

Of Interest to Sales Departments

Chicago Post Office Receives Low Bids On Gasoline Needs

CHICAGO, Sept. 6.—Bids for supplying the Chicago Post Office, Motor Vehicle Department, were received on August 28, for the final quarter of the year, which usually runs a little heavier than the other quarters owing to the holiday trade. The bids were in the usual two groups; those which offered the U. S. Motor gasoline in tank car lots and those which were for delivery by tank wagon. The Apex Motor Fuel Co. bid on the tank car deliveries, .0525 cents Group 3, with a maximum price of .0575. Jewett & Sowers Oil Co., which is the present holder of the contracts, bid .065 for October and .06 cents for the two following months, or the average of the bids for the entire three months with a miximum given as .0575 cents. The Deep Rock Oil Co. bid .0648 cents for October, 0.630 cents for November and .0618 cents, or the average of the three prices for the entire quarter. Its maximum price was .0648 cents. George C. Peterson Co. bid .06625 for the three months and one-eighth cent below the tank car market for the maximum price. The Commercial Fuel Co. bid .06 cents with a maximum price of 7 cents.

The Agni Motor Fuel Co. bid .0675 cents for the three months, with a maximum for the entire period of .0025 cents below the tank car market with a maximum of .0675 cents. The Shell Petroleum Corp. bid .0525 cents on the three months with no maximum. All these bids included one-half cent handling charge and were subject to 1 per cent cash in 10 days.

In the tank wagon delivery bids the Sinclair Refining Co. bid 14 cents, while the Shell Petroleum Corp., Deep Rock Oil Corp., Agni Motor Fuel Co. and the Commercial Fuel Oil Co. each bid 10 cents. The tank car bids will be the ones which will be accepted in all likelihood. The bids of Jewett & Sowers and the Apex Motor Fuel Co. are practically on a parity but the Post Office will consider the length of the haul, which is favorable to Jewett & Sowers.

CHECK PUMPS

RICHMOND, Va., Sept. 6.—Tests of gasoline pumps in 42 Virginia counties during the year ended June 30, showed that 46 per cent of those tested were inaccurate, of which 20 per cent gave short measure, 5 per cent more than full measure, and the others had defects of one sort or another, J. H. Meeks, director of the state division of markets, declares in his annual report.

IMPERIAL GASOLINE SALES

CHATHAM, Ontario, Sept. 6.—Sales of gasoline by Imperial Oil, Ltd., for the first six months of 1930 were 4 per cent ahead of the like period in 1929, according to a statement of President C. O. Stillman. Sales of lubricating oils in the motor division were about equal to last year, but in the industrial division they were 7 per cent lower.

TEXAS GASOLINE TAX

AUSTIN, Tex., Sept. 6.—Tax collection on gasoline will yield approximately $3,150,000 to the State of Texas for July. The 5 per cent payments were made by the following companies: Gulf Refining Co., $614,060.24; The Texas Company, $597,602.56; Magnolia Petroleum Co., $462,511.96; Humble Oil & Refining Co., $222,792.68, and Sinclair Refining Co., $158,882.64.

SINCLAIR LOW BIDDER ON LARGE CONTRACT IN TEXAS

The Sinclair Oil Co. was awarded the wholesale and retail contracts for oil and gasoline for the Texas Highway Department and the State departments and eleemosynary institutions by the Board of Control last week, on recommendation of the Highway Commission. The Sinclair's bid to supply the State with gasoline was one of the lowest proposals ever made and its bid on the lubricants was second low, but, considered with the gasoline bid, the offer on both supplies was the lowest.

The company will furnish the State with gasoline in wholesale lots 2¼ cents a galion less than the published tank wagon market price and at 3 cents less than the posted service station price in retail quantities. Its competitors offered reductions alike on gasoline, 1 cent and 2 cents off the market price in wholesale and retail quantities, respectively. Bids of 1 cent and 2 cents off were submitted by the Gulf, Texas, Cities Service, Pennsylvania, Magnolia, Humble and Travis County Oil Cos.

The contract will become effective September 15 and continue until August 31, 1931, and it is estimated to be worth $1,500,000, while the definite amount of the contract will be determined by the quantities of gasoline and oils used by the various departments.

It was agreed by the board that at points where the Sinclair company does not maintain service stations, State employes are authorized to purchase gasoline in retail quantities from the Gulf Refining Co. stations at a price 2 cents less than the posted retail price of the company.

The Highway Department estimated that 4,050,000 gallons of gasoline will be used in wholesale quantities, while 200,000 gallons will be used in retail quantities. It also estimated that 172,000 gallons of lubricating oil will be used in wholesale quantities.

DEFECTIVE PUMPS

NEW YORK, Sept. 6.—More than 50 per cent of the gasoline pumps tested by the State of Virginia during the year ended June 30 last were defective, according to the State Division of Markets. A total of 1,632 pumps were tested during the year in 42 counties, with 827 proving defective. Approximately 20 per cent of the pumps shown defective gave short measure, the report shows.

Oil marketing companies, the report stated, are co-operating with state authorities in correcting this situation by repairing or replacing defective pumps.

GAIN IN NEW YORK SALES

Gasoline sales in New York State for June, 1930, aggregated 139,243,049 gallons, a gain of 9,063,749 gallons over June, 1929, according to the State Commission of Taxation and Finance.

The net quantity taxable sold during June, this year, totaled 134,462,902 gallons, as compared with 128,163,542 gallons in the same month last year.

CHANGE GASOLINE GRADES

The Refiners Oil Co., of Dayton, Ohio, is about to replace its regular gasoline with an anti-knock gasoline which it will sell at the regular price of the U. S. Motor grade. At the same time it will increase the gravity of the white gasoline used for blending with the Ethyl fluid, and also improve the anti-knock rating.

M.I.T. STUDENTS FINISH WORK AT BAYONNE PLANT

NEW YORK, Sept. 6.—The field station conducted by the Massachusetts Institute of Technology as a practice school at the Bayonne refinery of the Tide Water Oil Co., concluded its work on Saturday, August 30, after a stay of eight weeks at the plant.

Five men took the course at Bayonne under the supervision of Fred P. Broughton, assisted by G. A. Guerreri. Each year the work is centered on a few important units in the yard. These are studied and tested and much valuable information is picked up about their operation. This year most of the work has been done on the Pennsylvania pipe still, the solution stills, cracking coils, West Texas stills and the gas plant.

Tide Water School

Tide Water Oil Co. is inaugurating a number of new courses at its refinery school at Bayonne, intended to reach more plant employes than have taken advantage of courses offered in past years. The usual first and second years in refinery processing will be supplemented by two third-year classes, one of which will be given for the benefit of process men who have completed the two years of process instruction and the other designed to meet the needs of other than process men who desire to acquaint themselves with the equipment installed since they finished the course.

A course in refinery mechanics will be offered to mechanical men. This course will be practical and will be presented by men who have had years of experience in installing and maintaining refinery equipment. It should be of great value to all mechanical men who desire to learn all they can about the proper method of doing the work, the company announcement states.

BIG DECREASE IN JULY AUTOMOBILE PRODUCTION

The production of motor cars in July totaled 262,363 compared with 335,477 in June and 500,840 a year ago, according to the Department of Commerce. Production during the first seven months of 1930 was 2,481,911, against 3,726,283 in the like period of 1929.

Canadian production in July was 10,188 cars and trucks, compared with 15,090 in June and 17,461 in July, 1929. Canadian production during the first seven months was 120,873, against 205,822 in the like period of last year.

United States passenger car output in July was 222,459 against 289,245 in June and 424,944 in July, 1929. Production of passenger cars during the first seven months of the year totaled 2,117,465 compared with 3,188,241 in the corresponding 1929 period.

The following table shows the monthly automobile production in United States for the past 19 months:

UNITED STATES
Cars, Trucks and Taxicabs

	1930	1929
January	275,374	401,037
February	346,940	466,418
March	401,313	585,455
April	443,038	621,916
May	417,406	604,691
June	335,477	545,932
July	262,363	500,840
August	.....	498,628
September	.....	415,912
October	.....	380,017
November	.....	217,573
December	.....	120,007
Total	2,481,911	5,358,420

INDIANA INSPECTION FEE

INDIANAPOLIS, Ind., Sept. 6.—A bill will be introduced in the next meeting of the Indiana legislature to have the money collected as inspection fees, paid direct to the State instead of to the local inspection departments.

Tariff Legislation May Influence Oil Markets in Canada

CHATHAM, Ontario, Sept. 6.—It is unofficially reported that the new Canadian federal government headed by R. B. Bennett is proposing new tariff legislation affecting the oil refining industry in Canada. Among the proposals forecasted to be presented by the government at a special session of parliament in September are an increase in the tariff on gasoline entering Canada, the standardization of gasoline used in Canada, and the encouragement of development work in the Turner Valley and other Canadian fields.

These steps are to be taken in pursuance of the program to which the present government party committed itself, of fostering Canadian industries and giving encouragement to Canadian workmen.

It is understood that since forming his government early in the present month, Mr. Bennett has conferred with officials of the large Canadian refining companies. Through his former association with Imperial Oil, Ltd. and particularly its Alberta producing subsidiaries he is familiar with the details of the industry.

A short time ago the possibility was forecast that a tariff would be imposed on foreign crude oil with a view to encouraging Canadian production. This is now regarded as improbable. In view of the fact that Canada is dependent on imports for approximately 98 per cent of the crude oil used in Canadian refineries, an immediate effect of such a tariff would be to materially increase the cost of petroleum products, and particularly of gasoline, with consequent hardship to Canadian motorists and to the motor car industry, already in a difficult position.

Import Policy

It is possible, however, that ultimately a policy may be worked out of encouraging crude oil imports from countries which are willing to give preferential treatment to Canada's export products. Such a policy is not, however, in line with the policies advocated in the past by Mr. Bennett's party.

An alternative possibility is the conditioning of duty-free crude on the ready absorption by Canadian refining interests of any native production that may be developed. The question has also been raised as to the possible restoration of the bounty formerly paid on Canadian crude oil. This bounty of 52½ cents a barrel was instituted some 30 years ago to compensate the Ontario producers for the removal of the tariff against imported crude. It was discontinued in 1925, but its discontinuance was criticized by the conservative party of which Mr. Bennett is the head.

It is claimed that some Canadian refiners have suffered from imports of cheap gasoline dumped by United States refiners on the Canadian market; and that shutting out of these imports will result in resumption of activities by a number of the smaller Canadian refineries where operations have been curtailed or temporarily shut down.

LOUISIANA ADDS STATIONS

The Louisiana Oil Refining Co. added to its list of stations during July 56 controlled stations. The company now operates 983 stations which it owns or operates on leases.

STATION SURVEY

Survey of gasoline stations and pumps in Richmond, Va., just completed shows there are 304 stations and 880 pumps. These figures represent an increase of 14 stations and 70 pumps since January 1.

USE OF HEATERS FOR BOILER FEED WATER

(Continued from Page 34)

suction or has insufficient head to flow into the heater, and the boiler feed pump must handle hot water.

Closed Type Heaters

The closed type heater usually consists of a series of coils surrounded by a shell. The cold feed water flows through the coils and is surrounded and heated by the exhaust steam in the shell. If economy in water consumption is desired the condensed steam and water produced in the shell of the heater is collected in a hot well. It can then be mixed either with the cold feed water before it enters the heater or with the hot feed water from the heater, according to whether the heater is on the suction or discharge side of the boiler feed pump. The flow of water through the heater can be regulated by a valve operated by a float in the hot well.

The advantages of the closed-type heater are: Oil from the condensed steam does not come into contact with the feed water unless the condensed water is recovered, in which case it may be easily removed from the surface of the water in the hot well; the heater may be placed on either the discharge or the suction side of the boiler feed pump. The more general practice is to place the heater between the boiler feed pumps and the boiler so that only one pump, handling cold water, will be necessary. The disadvantages of the closed type heater are: The maximum temperature of the feed water will always be several degrees below the temperature of the steam, and decreases with scale accumulation; a hot well or separate tank is necessary if the condensed water is recovered; the boiler feed pump must handle hot water if the heater is placed on the suction side, and the hot well must be elevated, which will require an additional pump if the cold feed water is under suction; less condensed steam is recovered than in the open type heater; the heater operates at a pressure slightly greater than that in the boiler unless placed on the suction side of the boiler feed pumps; scale accumulates in the heater and greatly decreases its efficiency; it is difficult to remove accumulated scale; the heater can be satisfactorily operated only on a good quality of water.

Open Type Heaters

The writer has made a preliminary study of boiler feed water heaters, and through the co-operation of the Indian Territory Illuminating Oil Co. has made tests on an experimental open type exhaust steam boiler feed water heater and condenser. Provisions were made to utilize all or part of the trays for heating the water by different water inlet connections. The trays were constructed in such a way that they could be lowered by means of the four bolts which extend through the top of the heater, so that part of the water could be bypassed down the side of the heater if this was found desirable or necessary in order to lower the temperature of the water. Those trays above the water inlet acted as a mist extractor to remove suspended water from the steam before leaving the heater. No provision was made for the removal of oil other than that of drawing it off from the surface of the water in the bottom of the heater by means of a valve. While this heater proved satisfactory for testing purposes, it would have been more satisfactory if the shell had been the same diameter for the entire height, as the cone shape greatly increased the velocity of the steam over the upper trays.

The tests were conducted at a drilling well in the Oklahoma City Field. The steam-generating equipment at this well consisted of three 125 horsepower American Petroleum Institute uninsulated boilers, gas-fired and producing steam at 250 pounds per square inch pressure, which operated two 14″x7½″x18″ mud pumps, one twin cylinder 12″x12″ drilling engine and two 10″x4½″x10″ duplex boiler feed pumps. It was found necessary to elevate the feed water heater so that the water level in the heater was 12 feet above the pumps in order to overcome the friction in the lines and supply sufficient pressure on the pumps to prevent vaporization of the heated feed water. This elevation or head would not have been necessary if the lines from the heater had been correctly laid out. The piping arrangement will be discussed later. The exhaust steam from the mud pumps and drilling engine was collected in a 10-inch header connected to the feed water heater. Unfortunately, the drain from the steam separator on the engine and the exhaust steam from the feed water pumps was not collected in this header during the tests. The cold feed water was taken directly from a high-pressure water line which eliminated the necessity of using an additional pump to lift the water into the heater. Meters were placed on the intake and outlet water lines of the heater and on the gas line to the boilers. Thermometer wells were placed on the intake and outlet water lines, and provisions were made to make calorimetric tests of the steam entering the heater. It was found necessary to replace the usual rubber packing in the feed water pumps with hot water packing, but no other changes of equipment were necessary.

Short period tests were made while the heater was in continuous operation to determine the actual amount of water recovered and returned to the boilers. A five-day measurement of the gas consumption was made previous to the use of the heater in order to determine the approximate fuel requirements without a boiler feed water heater. To determine the effect on the quality of the water, water samples were taken of the raw feed water and of the water leaving the heater. The quality of the steam from the engine and from the mud pumps was also determined.

The temperature to which the feed

TABLE 1—RESULTS OF TESTS TO DETERMINE AMOUNT OF WATER RECOVERED AND TEMPERATURE OF THE FEED WATER OBTAINED BY USING THE EXPERIMENTAL FEED WATER HEATER

Time—	Total water, gallons: Put in heater	Total water, gallons: Taken from heater	Water condensed and recovered: Gallons	Water condensed and recovered: Per cent	Temperature of water °F.: Inlet	Temperature of water °F.: Outlet
Test 1						
9:58 a. m.	0	0	0	0	59	0
10:20 a. m.	534	834	300	36	59	180
10:50 a. m.	1,427	1,934	507	26.2	59	196
11:56 a. m.	3,665	4,634	969	20.9	59	198
1:06 p. m.	5,817	7,124	1,307	18.4	59	198
Remarks—Heater cold at start of test. Water lost by excess steam carrying out suspended water from heater.						
Test 2						
9:30 a. m.	0	0	0	0	46	186
10:30 a. m.	2,260	2,950	690	23.4	..	190
11:30 a. m.	4,048	5,270	1,222	23.2	..	...
12:00 noon	5,007	6,403	1,396	21.8	..	.
1:05 p. m.	6,859	8,703	1,844	21.2	..	...
2:00 p. m.	8,361	10,603	2,242	21.2	..	...
3:00 p. m.	9,637	12,273	2,636	21.4	..	...
4:00 p. m.	11,353	14,433	3,080	21.3	..	...
Remarks—Heater cold at start of test. Water inlet lowered. Atmospheric temperature 42° F.						
Test 3						
9:00 a. m.	0	0	0	0	48	188
10:00 a. m.	1,746	2,220	474	21.3	48	190
10:20 a. m.	2,230	2,830	600	21.2	48	190
11:00 a. m.	3,287	4,120	833	20.3	48	190
11:40 a. m.	4,540	5,700	1,160	20.4	48	190
12:00 noon	5,286	6,620	1,334	20.1	48	190
Remarks—Atmospheric temperature 50°.						

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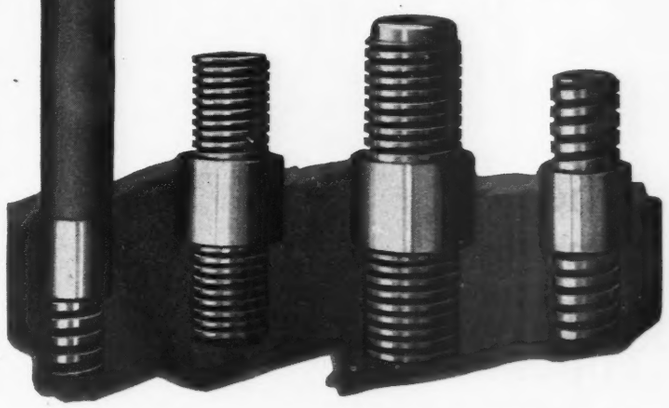

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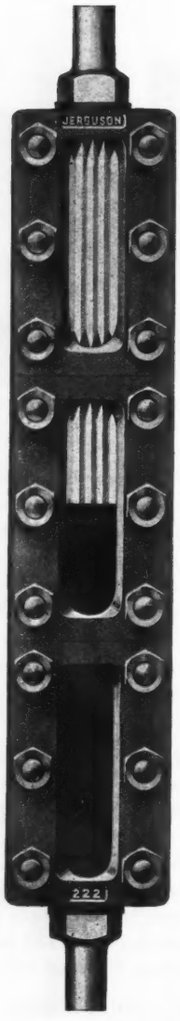

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water was heated and the amount of water recovered are shown in Table 1. During Test 1 the water inlet on the heater was too high, and due to the high velocity of the excess exhaust steam a portion of the water was carried out of the heater by the steam. Therefore, although the highest feed water temperature obtained in the tests was 198° F., only 18.4 per cent of the total water requirements of the boilers was recovered. In Tests 2 and 3 the water intake was lowered and the loss of water prevented. However, there was insufficient plate area remaining to heat the water to the maximum temperature of the exhaust steam, which was 210° F., due to the elevation of Oklahoma City above sea level. Under these operating conditions the feed water temperature was raised from 46° to 48° F., to 190° F. and between 20 to 22 per cent of the total water used was recovered. There was a large excess of exhaust steam leaving the heater during all tests.

Table 2 shows the fuel consumption for five days preceding and for five days during the use of the feed water heater. This indicated fuel saving is somewhat low, as more steam and consequently more heat was required during the time the heater was in operation than before its use, due to normal increase in steam demands with increasing drilling depth.

TABLE 2—FUEL CONSUMPTION BEFORE AND DURING USE OF EXPERIMENTAL BOILER FEED WATER HEATER

Date—	Depth	Feet drilled	Gas used, M cu. ft.
2-28-30	2,652	123	791
3- 1-30	2,749	117	784
3- 2-30	2,842	93	740
3- 3-30	2,925	83	707
3- 4-30	3,044	119	788

Note—Daily average gas consumption, 762,000,000 feet. Remarks—Average feed water. Temperature 50° F.

3- 8-30	3,420	80	666
3- 9-30	3,493	73	768
3-10-30	3,597	104	666
3-11-30	3,672	75	684
3-12-30	3,759	87	655

Note—Daily average gas consumption, 688,000,000 feet. Indicated fuel saving, 9.70 per cent. Remarks—Feed water heater in operation. Temperature of water leaving heater 190° F.

The analysis of the raw feed water and water leaving the feed water heater are given in Table 3. These analyses show that the feed water heater reduced the total solids 37.6 per cent and the total hardness 41.7 per cent. This improvement in the quality of the water was the combined result of heating the water and precipitating some of the scale-forming constituents and the addition of the condensed steam.

Several tests on the quality of the exhaust steam indicated that the exhaust steam from the drilling engine contained about 4 per cent suspended water and that the exhaust steam from the mud pumps contained 11 per cent water. The small quantity of condensed water in the exhaust steam from the engine was partly due to the shorter steam line from the boiler and the use of a steam separator, while the line to the pumps was approximately three times as long and no separator was used. The total exhaust steam entering the feed water heater carried between 8 and 9 per cent suspended water. The quantity of water in the exhaust steam as it enters a feed water heater will vary considerably with the length and character of the steam lines from the boiler, the length and size of the exhaust steam header, and the atmospheric temperature.

The theoretical saving in fuel as a result of heating the feed water can be calculated by the use of steam tables, and the values for different temperatures at an operating pressure of 250 pounds per square inch gauge are given in Table 4. These values are approximately correct for boiler pressures as low as 150 pounds. It will be noted that the theoretical saving in fuel requirements when heating the feed water from 50° F. to 190° F., which was the approximate condition during the tests, shows a fuel saving of 11.83 per cent, which is 2.1 per cent higher than actually obtained. However, it was previously pointed out that the indicated fuel saving probably was lower than that actually obtained. The temperature of the water entering the boilers was also several degrees lower than when it left the heater due to the loss of heat in the pump and lines between the heater and boilers. If the plate area in the heater had been sufficient to heat the feed water to 210° F., the theoretical fuel saving would have been 13.52 per cent.

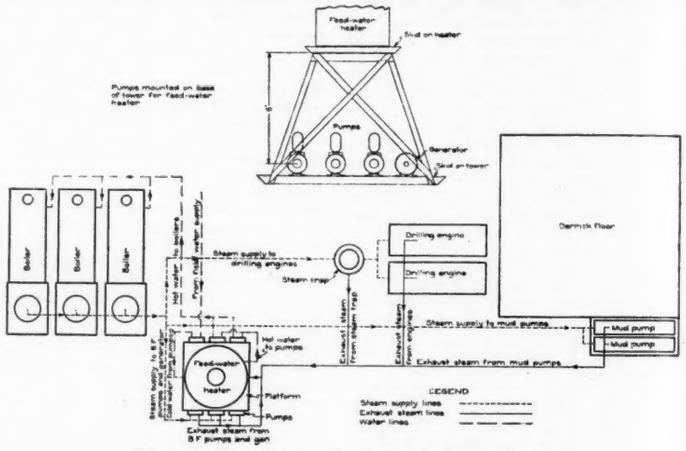

Figure 1—General layout for boiler feed-water heater.

TABLE 4—THEORETICAL SAVING IN FUEL REQUIREMENTS DUE TO HEATING FEED WATER

(Boiler pressure 250 pounds per square inch gauge)

Temperature of feed water to heater, °F.	Temperature of water leaving feed water heater 210° F. per cent	200° F. per cent	190° F. per cent	180° F. per cent
40	14.25	13.41	12.57	11.73
50	13.52	12.68	11.83	10.99
60	12.79	11.93	11.08	10.23
70	12.04	11.16	10.32	9.46
80	11.27	10.41	9.54	8.67
90	10.50	9.62	8.75	7.87
100	9.71	8.83	7.94	7.06

The boiler horsepower was also increased by the use of heated feed water. No tests were actually conducted to determine the maximum horsepower that could be generated by the boilers with and without the use of the boiler feed water heater in operation. However, it was observed during the test when the heater was not in operation, with the atmospheric temperature at 42° F., that the boilers could barely supply the steam requirements and maintain a pressure of 250 pounds per square inch. After the

TABLE 3—ANALYSIS OF FEED WATER BEFORE AND AFTER PASSING THROUGH EXPERIMENTAL BOILER FEED WATER HEATER

	Raw feed water	Water leaving feed water heater
Total solids	726 parts per million	453 parts per million
Temporary hardness	1.044 grains per U. S. gallon	0 grains per U. S. gallon
Permanent hardness	7.714 grains per U. S. gallon	5.104 grains per U. S. gallon

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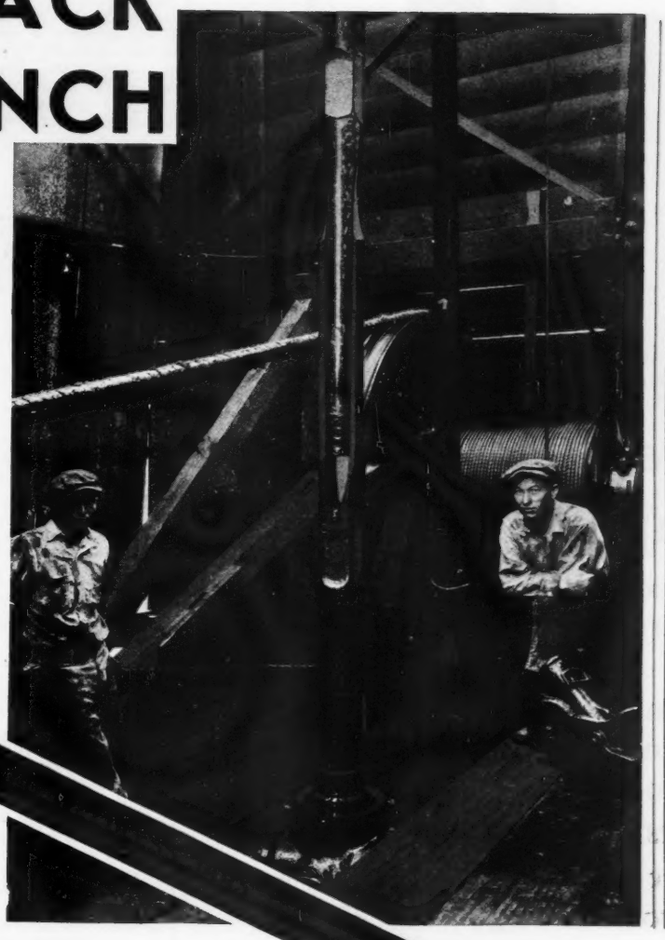

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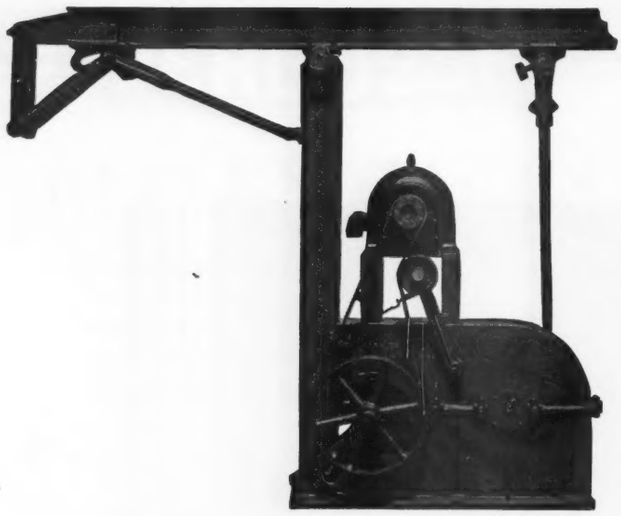

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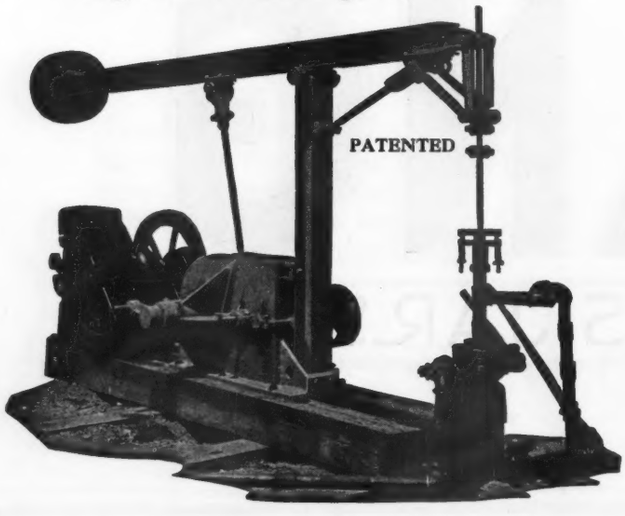


heater was put in operation, the boilers could easily be made to "pop off," and it was necessary to reduce the fires. The theoretical increase in boiler horsepower due to heating the feed water is given in Table 5. Although this table is calculated for a steam pressure of 250 pounds per square inch, it is approximately correct for pressure as low as 150 pounds per square inch. Under the conditions prevailing during the tests, the feed water was heated from approximately 50° to 190° F., and from Table 5 the increase in the boiler horsepower of the boilers for these conditions is 13.42 per cent. An increase in the boiler horsepower capacity of a boiler battery is a very decided advantage, for an ample supply of power is essential when drilling a well. This increase in boiler efficiency makes it unnecessary to fire the boilers so hard, and should tend to lengthen their life.

TABLE 5—THEORETICAL INCREASE IN THE AMOUNT OF STEAM A BOILER CAN GENERATE AS A RESULT OF HEATING THE FEED WATER

(Boiler pressure 250 lbs. per sq. in. gauge)

Temperature of feed water before heating, °F.	Temperature of feed water after heating 210° F. per cent	200° F. per cent	190° F. per cent	180° F. per cent
40	16.62	15.49	14.38	13.30
50	15.64	14.52	13.42	12.35
60	14.66	13.55	12.46	11.40
70	13.69	12.58	11.51	10.45
80	12.71	11.62	10.55	9.50
90	11.73	10.65	9.59	8.55
100	10.75	9.68	8.63	7.60

The theoretical saving in water based on the condensation of steam required to heat the feed water in an open type boiler feed water heater is given in Table 6. The theoretical saving in water due to the recovery of steam condensed by heating the feed water from 50° to 190° F. is 12.35 per cent, whereas the actual saving was between 20 and 22 per cent. the Calorimetric tests on the exhaust steam indicated that the steam entering the heater carried between 8 and 9 per cent water. This water, in addition to the steam condensed in the heater due to radiation of heat, was responsible for the actual recovery of 20 to 22 per cent. If the feed water had been heated to 210° F. in the heater, 1.76 per cent more water would have been obtained. Additional water could also have been recovered by connecting the exhaust from the steam separator on the engine and the exhaust from the boiler feed pumps into the exhaust steam header. This should be done in all actual service installations. In all probability a saving of 25 to 26 per cent of the total water requirements would be procured under such conditions.

TABLE 6—THEORETICAL SAVING IN WATER REQUIREMENTS DUE TO RECOVERY OF WATER CONDENSED FROM STEAM IN HEATING FEED WATER

Temperature of feed water to heater, °F.	Temperature of water leaving feed water heater 210° F. per cent	200° F. per cent	190° F. per cent	180° F. per cent
40	14.86	13.99	13.12	12.24
50	14.11	13.23	12.35	11.47
60	13.35	12.46	11.57	10.68
70	12.57	11.67	10.77	9.88
80	11.78	10.87	9.97	9.06
90	10.97	10.06	9.14	8.23
100	10.15	9.23	8.30	7.38

An analysis of the results obtained by using the boiler feed water heater in these tests shows the following savings: The average daily water consumption of this well was 1,280 bbls. per day for steam purposes. After the installation of the heater, the water consumption was reduced 282 bbls. per day. This saving is sufficient to supply an additional well with water for every five wells in operation. Assuming the cost of water per drilling well to be $25 per day, this would mean a saving of $5 a day or, based on 125 days' actual drilling time, a saving of $625 per well. The average gas consumption of this well was approximately 760,000 feet per day. A saving of 9.7 per cent in fuel based on a cost of 10 cents per 1,000 would amount to a saving of $7.37 per day, or based on a drilling time of 125 days the saving would amount to $921. The gross saving in fuel and water per well would be approximately $1,546.

In the Oklahoma City Field it is usually necessary to replace the flues in the boilers after each well drilled, which represents between 110 to 125 days of actual operation. This is necessary as a result of scale accumulations and also the strains produced by using cold feed water. Since the analyses of the feed water used in these tests showed that the feed water heater reduced the total hardness 41.7 per cent, it is logical to believe that this improvement in the quality of the water will increase the life of the flues.

The cost of replacing flues is $2.50 per flue, or approximately $720 for a battery of three boilers.

Assuming that the life of the flues will be increased directly in proportion to the reduction in hardness, a saving of 41 per cent of $720 or $295 would result.

Each time it is necessary to replace the flues the boiler deteriorates; therefore increasing the life of the flues also lengthens the useful life of the boiler.

It is considered necessary to "wash" or flush the boilers out once a week in the Oklahoma City Field. The pay roll of the rotary drilling crew is approximately $100 per day of 24 hours, and the drilling operations are stopped approximately two hours for each boiler washed or a total of six hours a week for three boilers; this lost time represents a labor cost of $25 a week chargeable to washing the boilers. In addition to the cost of lost time there are also the miscellaneous expenses such as the cost of hand-hole and manhole gaskets amounting to approximately $5 for three boilers, making a total expense of $30 a week for washing the boilers. If it requires 16 weeks to drill a well this would amount to $480. As a basis for estimation, it might be considered that the length of time between washings will probably be increased in direct proportion to the improvement in the quality of the water. A 41 per cent improvement in the quality of the water would therefore amount to a saving of approximately $196 per well drilled.

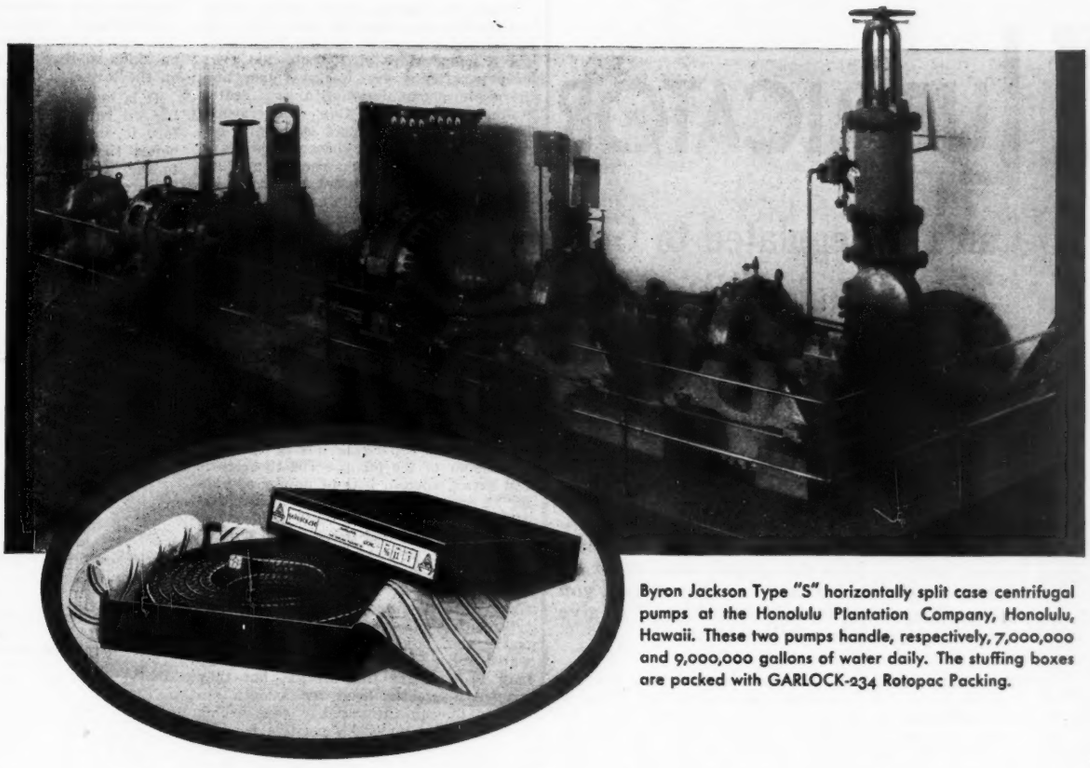
The total estimated saving in maintenance costs per well drilled resulting from lowered refluing and cleaning costs would amount to $491, without taking into consideration the intangible saving due to increased life of the boilers and their increased efficiency.

The estimated total gross saving in water, fuel and maintenance costs would be $2,037 per well drilled. The cost of a portable open type feed water heater including extra pumps and additional piping should not be in excess of $1,500, and the life of the heater should be at least two years or enough to drill six wells. Allowing a cost for maintenance and installation of $200 per well, the cost including heater would be $2,700 for six wells. The gross saving for six wells would amount to $12,222 and the net saving would be $9,522 or $1,587 per well. Without taking into consideration the maintenance savings, but including only the saving in fuel and water, the net saving per well would be $1,096, based on a heater life sufficient to drill six wells.

Closed Type Heaters

While no actual tests were conducted on closed type heaters, there were several field-built heaters similar in construction to the one shown in Figure 2. These heaters consist of 150 to 200 feet of 14-inch casing with a 3-inch coil welded inside. The cold feed water flows through the 3-inch coil and the exhaust steam from the engines and pumps flows through the casing. The condensed steam from the heaters is collected in a hot well, where the oil carried by the steam was drained off.

In one installation the cold feed water entered the hot well and was mixed with the condensed water from the heater and then pumped through the heater and into the boilers. This eliminated the necessity of the boiler feed pumps handling hot water, but had the disadvantage that all scale-forming material precipitated from the water by heat was either deposited in the heater or was carried into the heater and then into the hot well where it was mixed with the condensed water from the heater, picked up by the



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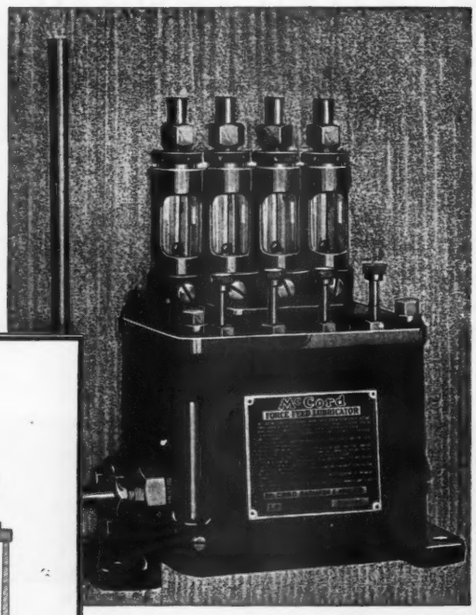

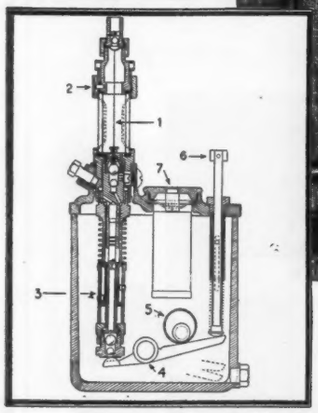

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pumps, and forced into the boiler. In this installation most of the scale-forming material precipitated from the water collected in the heater or in the hot well and did not reach the boilers. However, the boiler feed pumps had to handle hot water, and the hot well had to be elevated above the pumps.

When the heaters were new a fairly satisfactory exchange of heat was obtained and the water leaving the heater had a temperature of 195° to 200° F.; however, after several weeks of operation the scale accumulations in the heater gradually decreased this temperature. The recovery of condensed water also decreased as the heater became less efficient. The cost of construction and installation of these heaters was approximately that of open type heaters, but the rapid decrease in efficiency, the cost of removing scale, the short life, and the cost of moving made it apparent that the closed type was less satisfactory for oil field service than the open type heater.

Operating Suggestions

In pumping hot water approaching the boiling point it is necessary to have a positive head on the suction side of the pumps; otherwise the friction in the line and the intake valves may offer so much resistance that the pressure on the heated water will not be great enough to prevent it from vaporizing during the suction stroke of the pump. The theoretical and actual suction lifts of pumps operating at full capacity are given in Table 7. These values may be greatly reduced by use of large pipe and proper sized pumps.

The best type of pump is one that has a low piston speed and which starts the stroke with a slow steady motion. The single, direct-acting pump, especially that type with a steam-operated valve on the power end, is particularly good for hot water boiled-feed service. Duplex pumps may be used for this service, but they require a greater head for smooth operation due to the rapidity with which the stroke is started. A positive head of 5 feet is usually sufficient at a temperature of 210° F., providing the pumps are operated at low piston speeds of 30 to 40 feet per minute and pipe sufficiently large to eliminate any appreciable loss of head due to friction are used. It is advisable to use as short and straight a line between the heater and the pumps as practical so that the friction loss may be minimized. In some pumps the springs on the suction valves should be loosened or entirely removed to eliminate excessive loss of head as a result of the pressure required to open the valves.

TABLE 7—THEORETICAL AND ACTUAL LIFT OF PUMPS WITH WATER AT VARIOUS TEMPERATURES AT SEA LEVEL[1]

Temperature °F.	Theoretical suction lift, ft.	Actual Lift, ft.	Actual Head, ft.
60	33.4	22	0
100	32 0	13	0
140	27.6	4	0
160	23 3	0	0
180	16 7	0	5
190	12 7	0	7
210	1.3	0	12

[1]Worthington Pump Handbook, Worthington Pump & Machinery Co., New York, 1924.
Note: Subtract 2.5 from lift in feet and add 2.5 to head in feet for each 2,000 feet elevation above sea level.

In those cases where the feed water supply is under suction or without sufficient pressure to flow into the elevated feed water heater, an additional cold water pump is necessary. This pump may be a low-pressure pump of either single or duplex design. When a pump is used to supply water to the heater, the throttle can be operated by a float valve in the heater to maintain the correct water level. If the feed water is under sufficient pressure to flow in the heater the low-pressure pump is unnecessary, and the flow of water can be controlled by a valve on the water line operated by the float in the water. When a pump is necessary to lift the water into the heater the flow of water can be regulated by the float in the heater operating the steam throttle of the pump. In the piping diagram shown in Figure 3 any one of the three pumps can be used to supply water to the heater. These connections are so designed that there will always be one pump to act as a stand-by unit.

A suggested plan for the location and piping of a feed water heater is shown by the diagrammatic sketch, Figure 1. The pumps in this setting are mounted on the base of the tower used for the boiler feed water heater, and the base is provided with runners or skids for ease in loading on trucks when moving. The feed water heater also should be mounted on skids so that it can be easily placed on the tower.

It is necessary to remove the lubricating oil carried by the steam either before it enters the feed water heater or before the heated feed water is returned to the boilers; otherwise serious trouble will result from foaming in the boilers. The separation and removal of oil is usually provided for by a trap embodied in the heater.

The recovery of water can be increased by using air-cooled condensers to condense a portion of the exhaust steam. These condensers may be placed on the exhaust steam line entering the heater, on the exhaust from the heater or combined in the heater itself.

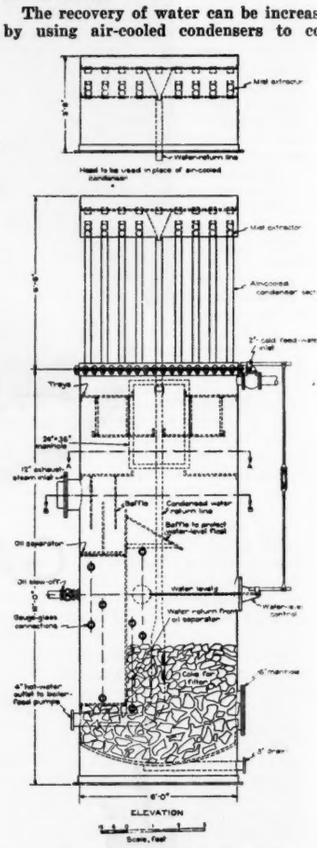


Figure 2—Open-type feed-water heater with oil trap and air-cooled condenser.

A heater with an oil trap, an air-cooled condenser, and of a more satisfactory design than the one used in the field tests is shown in Figure 2. The steam as it enters the heater is deflected down over a perforated plate and baffle; the condensed water and oil suspended in the steam pass through the plate and are collected in the reservoir or oil trap where the oil can be drawn off. The condensed water flows into the heater from the bottom of the reservoir. The steam then flows through the tray section, where it heats the cold feed water which enters the heater on the top tray. The steam passes up from the tray section through the air-cooled condenser and into a mist extractor where the condensed water is removed and returned to the bottom of the heater through a downspout pipe. The excess steam is allowed to blow into the air.

The tray section in this heater has an area of 51 square feet, which is sufficient to heat 25,500 pounds of clear water per hour to the temperature of the exhaust steam, based on the requirement of 2 square feet of tray area per 1,000 pounds of water per hour as given

by Kent in his Mechanical Engineers Handbook.

The heater is constructed so that the air-cooled condenser can be dispensed with and the other type of head shown in Figure 2 substituted if water economy is not of the utmost importance. The capacity of the heater can be increased by inserting additional tray sections between the air-cooled condenser or other type of head and the body of the heater. Scale can be easily removed from the heater by use of the large manholes.

Conclusions

The use of boiler feed water heaters lowers drilling costs by effecting an economy of 10 to 15 per cent in fuel requirements and of 20 to 25 per cent in water consumption, increases the boiler horsepower capacity of the boiler 10 to 16 per cent, lengthens the life of the boilers, decreases the maintenance costs of the boilers, reduces the lost time for boiler repairs, and lessens the danger of boiler failures. Their use also muffles the sharp exhaust from the pumps and engines and carries the steam away from the derrick. The value of this feature can not be expressed in dollars and cents, but lies in the fact that it creates better and safer working conditions. The hazards of steam engine exhausts are discussed by Miller[1].

Boiler feed water heaters are practical where the steam demands are large, when the supply of water is limited, or when fuel is expensive. They are of particular value for deep drilling, where large quantities of steam are required, and for "wildcat" locations where fuel and water are very expensive or difficult to obtain. It is not uncommon for a water shortage to delay drilling operations, and in such cases the use of feed water heaters would have the effect of increasing the water supply 20 to 25 per cent.

In a drilling campaign where 100 deep wells are to be drilled, an approximate saving of $100,000 in fuel and water and an additional saving of about $50,000 in maintenance costs on the boilers would be obtained by the use of boiler feed water heaters. This conclusion applies to conditions and expenses similar to those in the Oklahoma City Field.

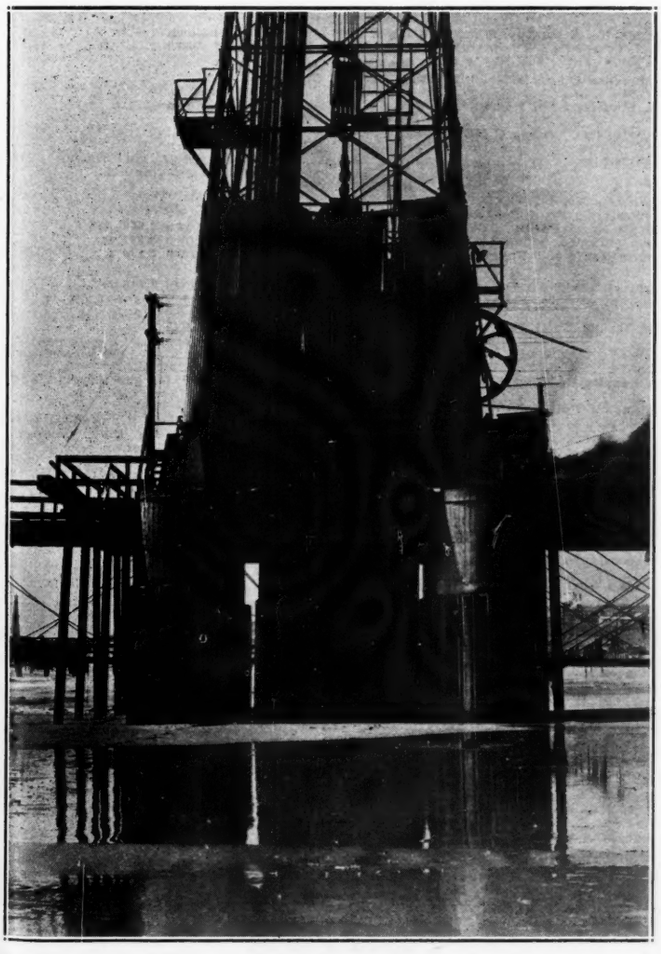
The open type boiler feed water heater and condenser is better adapted and more practical for oil field service than other types of feed water heaters. Its advantages are: Simplicity of design, low cost, ease with which scale can be removed, high temperature of the feed water, and the high recovery of condenser water.

[1]Miller, H. C., Safeguarding Workmen at Oil Derricks. Bull. 272, Bureau of Mines, 1917, pp. 100-101.

SHALE OWNERS REASSURED

Persons who have complied with the law have no need to be alarmed over their titles to Colorado shale oil lands, and any impression that the Government is trying to acquire their lands is erroneous, it was stated on behalf of the Department of the Interior. Those who have fulfilled the requirements of the law can obtain patents from the General Land Office, and those who have not may have their titles invalidated.

HEAVY SUPPORTS FOR DEEP SEA DRILLING



—Photo by Underwood & Underwood.

Casing work necessary for well drilled 400 feet off shore at Sea Cliff, Calif. The derrick rests on four concrete pillars and the drill extends through a big concrete caisson.

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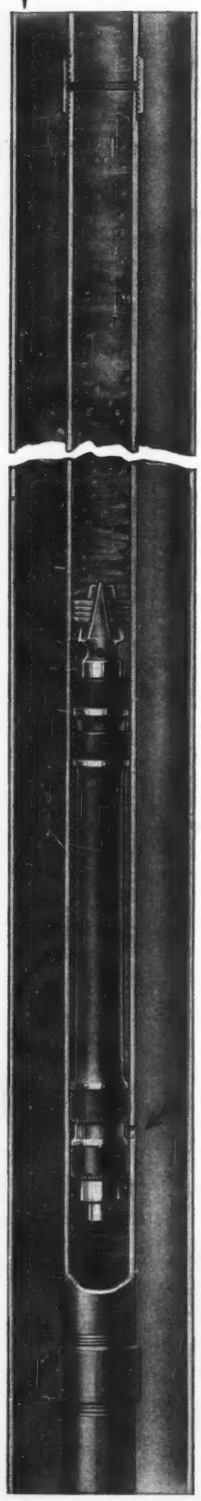

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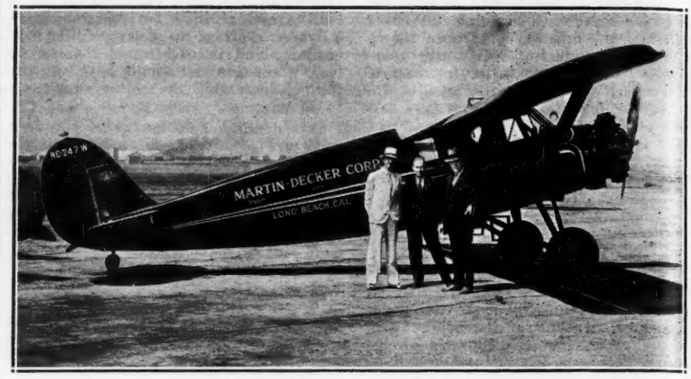

Left to right: E. L. Decker, Bob Blair (pilot), W. R. Martin. The Stinson Detroiter beside which they are standing was acquired recently by the Martin-Decker Corp. It covered 16,000 miles in six weeks visiting oil fields in the United States, Canada and Mexico.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 42)

COMANCHE COUNTY

Croy & Young's No. 1 Cline, NW NE NE Sec. 8-3-10w ....Rig.
Shasta Oil Co.'s No. 1 Romwalt, SW NW Sec. 11-2-10w ..Shut down 1,709 ft.
G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w ....Shut down 1,450 ft.

GARFIELD COUNTY

Shell Petroleum Corp.'s No. 1 Loomis, C NW NW Sec. 32-23-4w ..... Wilcox 6,185 ft.; water 6,281 ft.; shut down.
E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w ..... Drlg. 5,655 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w ....Shut down 100 ft.

GRANT COUNTY

Bu-Vi-Bar and Amerada's No. 1 Hurst, C SW Sec. 25-26-5w ..... Drlg. 3,832 ft.
Cowden et al's No. 2 Vollmer, CEL NE SW Sec. 22-25-4w..Shut down 5,640 ft.

GARVIN COUNTY

McMinn et al's No. 1 Carson, NE NW Sec. 5-3-4w .....Shut down 3,026 ft.
Nelson et al's No. 1 Strickland, NE NW Sec. 10-4-3w ..Shut down 2,880 ft.

GREER COUNTY

French's No. 1 Murphy, SW NW SE Sec. 23-7-21w .....Shut down 100 ft.
I. T. I. O. et al's No. 1 fee, C SW NE Sec. 17-6-24w ....Shut down 2,485 ft.

HARMON COUNTY

Harmon-Tex Oil Co.'s No. 1 Hoadley, NE cor. Sec. 17-4-24w ..... Fishing 2,380 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w ..Shut down 625 ft.

HARPER COUNTY

Empire's No. 1 Bruce, C NE SW Sec. 12-25-20w .....Fishing 5,570 ft.
Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w ..... 7,000,000 ft. gas; fishing 5,230-40 ft.; spraying oil.

HASKELL COUNTY

I. T. I. O.'s No. 1 Blake, SW NW Sec. 3-10-21 .....Rig.
Mid-Western's No. 1 Polster, C NE SE Sec. 33-10-22 ....Drlg. 3,300 ft.
Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e .....Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW Sec. 10-9-18e..Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e..Shut down 2,100 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 .....Shut down 1,645 ft.
Canady et al's No. 1 Kanard, NW SW Sec. 29-9-12 ....1,000,000 ft. gas 2,284 ft.; shut down 4,515 ft.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 .....Drlg. 4,270 ft.

KAY COUNTY

Boucher Oil Co.'s No. 1 Jefferson, NE SW Sec. 32-26-1w ..... Rig.
Alco Royalty Co.'s No. 1 Wolf, SE SW SE Sec. 34-26-2w..5,000,000 ft. gas 4,390-4,420 ft.; shut down.
Blankinship Petroleum Co.'s No. 1 Hansen, SW NW SW Sec. 17-27-2 ..... Sand 3,590-97 ft.; swabbed 34 bbls. after 40-qt. shot; pumped 19 bbls. in 7 hrs.

KINGFISHER COUNTY

Prairie and Slick's No. 1 Wright, C NW SW Sec. 23-15-5w ..... Shut down 2,740 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w .....Cleaning out 6,015 ft.

KIOWA COUNTY

Riley et al's No. 1 Grebb, SW NE Sec. 6-7-16w .....Shut down 990 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24 ..Drlg. 6,225 ft.

LATTIMER COUNTY

Limestone Oil & Gas Co.'s No. 1 Murray, NE cor. Sec. 25-5-18 ..... Shut down 1,450 ft.

LINCOLN COUNTY

J. J. Deaner et al's No. 1 Knox, NE NW Sec. 28-17-2 ..Wilcox 4,925 ft.; water 4,930 ft.; shut down.
Atlantic Oil Prod. Co.'s No. 1 Parker, SE NW Sec. 5-14-6 ..... Drlg. 3,651 ft.
Magnolia Pet. Co.'s No. 1 Winship, NE SW Sec. 2-13-4 ..Drlg. 5,200 ft.

LOGAN COUNTY

Slick & Ramsey's No. 1 Jones, SE NW Sec. 24-17-2w ....Drlg. 3,085 ft.
Prairie and Slick's No. 1 Morgan, NW NE Sec. 33-16-1w ..... Fishing 5,351 ft.
Eason Oil Co.'s No. 1 Young, C SW NE SW Sec. 34-17-4w. Drlg. 3,556 ft.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

MUSKOGEE COUNTY

Producers & Refiners' No. 1 Finklea, SE cor. Sec. 4-11-19 ..... Location.
Becker & Hutchinson's No. 1 May, SE NE Sec. 16-12-19..Abandoned 620 ft.
Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 ....Shut down 1,011 ft.

NOBLE COUNTY

Barnsdall's No. 1 Miksch, NW SW, Sec. 12-21-1 .....Location.
Weaver & Craigin's No. 1 Frederick, C SW NE Sec. 4-24-1w ..... Shut down 2,425 ft.

OKFUSKEE COUNTY

Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 .....Drlg. 3,923 ft.
E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 .....Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10..Shut down 3,661 ft.

OKLAHOMA COUNTY

Cromwell-Franklin's No. 1 Lincoln Park, SW cor. Sec. 12-12-3w ..... Abandoned 4,535 ft.

L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w ..... Shut down 5,515 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor. Sec. 32-14-3w ..... Drlg. 6,702 ft.
Prairie and Slick's No. 1 Dill, SE NW Sec. 17-13-3w .... Shut down 6,821 ft.; P. B. to 6,530 ft.
Warr et al's No. 1 Castle, SW NW Sec. 20-11-3w ..... Shut down 6,440 ft.
J. F. Cuniff, trustee's No. 1 Church Land, NE SW SE Sec. 17-12-4w ..... Shut down 6,700 ft.
Magnolia and Ramsey's No. 1 Johnson, C NE SW Sec. 35-13-3w ..... T. D. 7,212 ft.; P. B. to 6,450 ft.
Ryan Consolidated's No. 1 Lawton, NE NW Sec. 3-11-2w .. Shut down 6,903 ft.; recemented.

PAWNEE COUNTY

Sperry et al's No. 1 Mullrap, SE SW Sec. 2-22-5 ..... Rig.
L. E. Wentz' No. 1 G. Lilly, SE SW NE Sec. 26-22-3 .... Drlg. 1,960 ft.
Flynn & Morgan's No. 1 Jones, SW NE Sec. 22-20-5 .... Drlg. 2,965 ft.
Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5 .... Rig.

PITTSBURG COUNTY

C. Cannady's No. 1 Jones, NW cor. Sec. 14-8-14 ..... Rig.
Morgan & Flynn's No. 1 Freeman, NW cor. Sec. 1-20-5 .. Drlg. 600 ft.

POTTAWATOMIE COUNTY

Apex et al's No. 1 Walker, NW SE Sec. 18-7-13 ..... Drlg. 50 ft.
The Texas Company's No. 1 Knight, SW SE Sec. 3-8-3.. Drlg. 4,510 ft.

ROGER MILLS COUNTY

Bucy & Stone's No. 1 Williams, C SW Sec. 23-12-24w .... Shut down 2,245 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w .... Shut down 2,905 ft.

SEMINOLE COUNTY

Pure Oil Co.'s No. 1 Shaffer Ashby, SE NE Sec. 22-7-5 .. Wilcox 4,302-05 ft.; water; shut down.
Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 35-5-5 .... Location.

WASHITA COUNTY

Kauffman et al's No. 1 Nelson, NE cor. Sec. 1-8-14w .... Shut down 1,235 ft.
Petroleum Holdings, Inc.'s No. 1 Musie, NW cor. Sec. 10-9-20w ..... Shut down 280 ft.

WOODS COUNTY

Gypsy-Prairie et al's No. 1 Thompson, SE cor. SW Sec. 10-25-15w ..... Shut down 6,104 ft.
Sinclair Oil & Gas Co.'s No. 1 Showwalter, C SW SW Sec. 33-27-16w ..... Drlg. 7,205 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-22-17w ..... Shut down 1,387 ft.
Prairie Oil & Gas Co. et al's No. 1 Wilbur ,NE cor. NW Sec. 22-23-17w ..... Shut down 7,445 ft.
Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ..... Shut down 1,910 ft.

OKLAHOMA PANHANDLE

CIMARRON COUNTY

Magnolia's No. 1 School Land, C SW NE Sec. 27-5-5 .... Drlg. 3,900 ft.

TEXAS COUNTY

Argus Prod. Co.'s No. 1 fee, C SW Sec. 36-5-14 ..... Rig.
Argus Prod. Co.'s No. 1 Fischer, C NW Sec. 29-6-14 ..... Location.
Argus Prod. Co.'s No. 1 Parker, C NW NW Sec. 18-6-15.. Rig on ground.
Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-18 ..... Drlg. 4,280 ft.
Palo Alto Oil Co.'s No. 1 Graves, NE SW SW Sec. 23-2-18e ..... Spudded; shut down.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Bryan-Croxton's No. 1 Mason, NW SE NW Sec. 4-1s-14 .. Shut down 1,850 ft.
Brookshire's No. 1 Guinn, NW cor. Sec. 18-3s-10 ..... Shut down 100 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW Sec. 8-7-10.. Drlg. 200 ft.
Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 ..... Shut down 525 ft.
Johnson et al's No. 1 Ussery, SE SW SE Sec. 14-16s-7e .. Shut down 485 ft.
Marshall's No. 2 fee, C SW NW Sec. 26-5s-7 ..... Shut down; 6-in. csg. 265 ft.

CARTER COUNTY

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Shut down 2,590 ft.

CHOCTAW COUNTY

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6s-19e ..... Shut down 1,345 ft.

COTTON COUNTY

H. J. Dillard's No. 1 McMillan, SE NW Sec. 2-4s-13w .... Shut down 2,705 ft.

LOVE COUNTY

Hobbs et al's No. 1 Roberts, NE cor. SW Sec. 20-6s-3w .. Shut down 3,130 ft.
Gilcrease Oil's No. 1 Burkhart, NE NW Sec. 13-6s-1 .... Rig.

MARSHALL COUNTY

Pace et al's No. 1 Hicks, SW NW Sec. 8-6s-7 ..... Drlg. 1,070 ft.
McCrory et al's No. 1 Adams, NE SW SE Sec. 31-7s-6 .... Rig.
Akers et al's No. 1 Spicer, SW SE SE Sec. 33-5s-7e .... Shut down 370 ft.

McCURTAIN COUNTY

Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ..... Shut down 2,287 ft.

STEPHENS COUNTY

Obermyer et al's No. 1 Skelton, NE SW SW, Sec. 32-15-7w ..... Rig.
R. Southard's No. 1 McKinney, NE cor. Sec. 25-1-8n .... Shut down 1,060 ft.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 44)

DOUGLAS COUNTY

Steinbuckle's No. 1 Unknown, SW NE NW Sec. 34-14-21.. Shut down 1,100 ft.
Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17 .... Abandoned 1,800 ft.

ELLIS COUNTY

Central Commercial Oil Co.'s No. 1 Helms, SE cor. NE Sec. 2-12-20w ..... Drlg. 3,575 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w ..... Abandoned 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w ..... Shut down 3,750 ft.

ELK COUNTY

Croft & Frazier's No. 1 Keys, SE NE Sec. 26-31-10 ..... Drlg. 735 ft.

ELLSWORTH COUNTY

Aladdin and Carter Oil Co.'s No. 1 Barecky, C NW Sec. 3-16-10w ..... Rig.
Slick et al's No. 1 Unknown, NW cor. Sec. 25-17-10w .. 3,000,000 ft. gas 2,495-2,500 ft.; drlg. 2,982 ft.

FORD COUNTY

Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w .. Drlg. 3,610 ft.

GOVE COUNTY

Johnson and Atlantic's No. 1 Wright, SE NE Sec. 11-12-27w ..... Rig.
Valerius & Baucher Oil Co.'s No. 1 Todd, NW cor. Sec. 24-13-27w ..... Drlg. 3,900 ft.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w. Shut down 4,370 ft.
Naylor et al's No. 1 St. John, NW SE SE Sec. 27-8-25w.. Drlg. 4,731 ft.

GRANT COUNTY

McKenna et al's No. 1 Sullivan, NE cor. Sec. 12-29-38w.. Shut down 50 ft.

GREENWOOD COUNTY

Staats et al's No. 1 Swan, NE NW Sec. 3-25-12 ..... Rig.
Harwood Oil Co.'s No. 1 Log, SW NE Sec. 20-25-10 .... Shut down 1,100 ft.
Mallory's No. 1 Denchfield, SE NW Sec. 12-27-9 ..... Shut down 1,810 ft.
Bundy, Smith & O'Neil's No. 1 Ford, NE NW Sec. 28-25-13 ..... Shut down 50 ft.
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12.. Shut down 1,836 ft.

HARPER COUNTY

Atkinson et al's No. 1 Misak, SE cor., Sec. 25-34-6w ..... Rig.
Beeler et al's No. 1 Bear, C NE Sec. 21-31-6w ..... Shut down 1,830 ft.

KINGMAN COUNTY

Skelly Oil's No. 1 Miles, NE cor. Sec. 30-27-10w ..... Rig.
Slick, Pryor & Lockhart's No. 1 Wetherall, NE SW Sec. 36-29-6w ..... Drlg. 3,250 ft.

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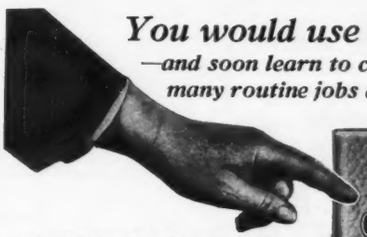

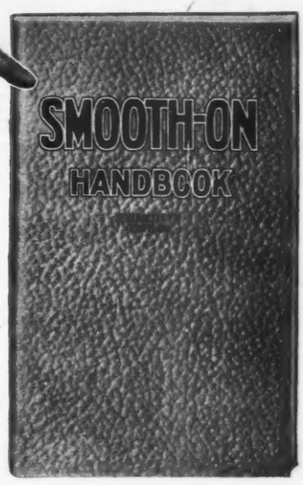

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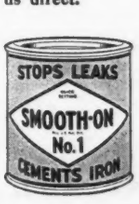

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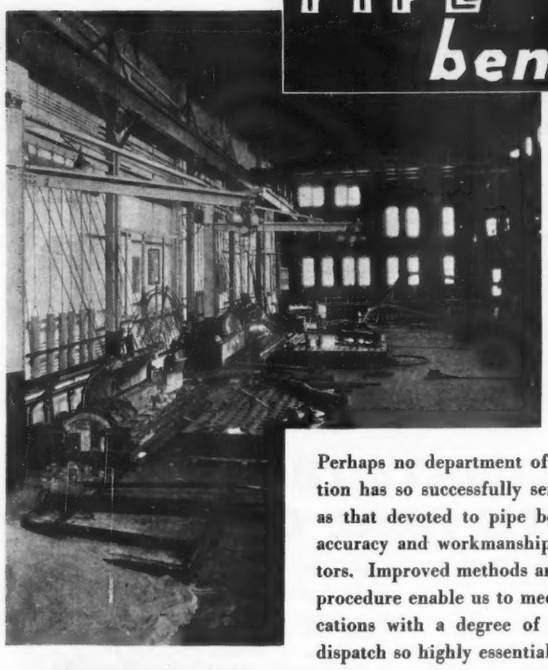

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KIOWA COUNTY

Phillips-Prairie's No. 1 Bean, NE SE Sec. 10-30-17w ....Drlg. 3,762 ft.
McKenna et al's No. 1 Ralson, C NE Sec. 14-28-20w ....Rig.

LYONS COUNTY

Griffith et al's No. 1 King, NW cor. Sec. 8-19-10 .....Shut down 910 ft.

MARION COUNTY

Magnolia Pet. Co.'s No. 1 Davis, SE NW Sec. 18-21-2 ..Drlg. 2,250 ft.
Dixie and Arkansas Fuel's No. 1 Hacker, NW NE Sec. 6-17-1 .....Drlg. 2,540 ft.
Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5 ....Rig.

MARSHALL COUNTY

Swicker & Sincox's No. 1 Remple, C N half NW Sec. 22-4-9 .....Shut down 1,245 ft.
Brazier et al's No. 1 Runkel, SE NW Sec. 13-2-6 .....Shut down 50 ft.

McPHERSON COUNTY

Aladdin Pet. Co.'s No. 1 Larson, C NW Sec. 22-18-4w ....Rig on ground.

MORTON COUNTY

Argus Prod. Co.'s No. 1 Sullivan, C NW Sec. 29-34-39w...Drlg. 2,620 ft.
Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22-24-43w .....Fishing 2,792 ft.; gas at 1,200-10 ft. and at 1,350 ft.

MORRIS COUNTY

Pratt et al's No. 1 Whiting, NW SW SW Sec. 34-16-6....Location.
Henderson et al's No. 1 Selsman, SW SE Sec. 24-16-9....Rig.
Urschell et al's No. 1 Scott, NE NW Sec. 6-16-6 .....Shut down 2,420 ft.

OSAGE COUNTY

Riggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15 ....Shut down 410 ft.

PAWNEE COUNTY

Phillips' No. 1 Cuthbertson, NE cor. Sec. 27-20-18w ....Rig.
Skelly Oil Co.'s No. 1 Milhouse, C SE Sec. 34-23-7lw ....Drlg. 4,956 ft.

PRATT COUNTY

Wilcox O. & G. Co.'s No. 1 Bappin, SW NW Sec. 7-26-15w .....Drlg. 4,353-95 ft.; water.

RENO COUNTY

Braden et al's No. 1 Thersen, SE NE Sec. 6-22-4w ....Spudding.
Alco Royalty's No. 1 Kinney, SE cor. Sec. 16-22-7w ....Drlg. 1,160 ft.
Shell Pet. Corp.'s No. 1 Popp, NW cor. Sec. 11-25-5w ...Plugging back bad hole 2,092 ft.
E. L. Study and H. L. Turner's No. 1 Haury, NE NW Sec. 1-23-4w .....Drlg. 3,235 ft.
Phillips Pet. Co. and Tom Palmer's No. 1 Harsch, NE SE Sec. 14-26-5w .....Drlg. 3,800 ft.
United Pet. Co.'s No. 1 Houston, NW cor. Sec. 4-22-10w ..Drlg. 3,270 ft.
C. A. Cheney and M. M. Valerius' No. 1 Stevens, C NE SE NE Sec. 6-26-7w .....Drlg. 4,077 ft.

RICE COUNTY

United Pet. Co.'s No. 1 Willman, NE cor. Sec. 29-21-9w ..Drlg. 1,475 ft.
Gypsy Oil Co.'s No. 1 Koch, SE NE NW Sec. 35-20-9w ..Drlg. 3,424 ft.
Hershey Golden & Skelly's No. 1 Brandenstein, Sec. 10-19-10w .....Drlg. 2,090 ft.
Hoffner, Lee & Shell's No. 1 Slad Farm Corp., C SW Sec. 33-19-6w .....Wilcox 3,565-88 ft.; water; abandoned.
Tatlock et al's No. 1 Ploog, C SW SE Sec. 33-18-9w ....Silicious line 3,252-53 ft.; flowing 30 bbls. an hr. when shut in.

ROOKS COUNTY

Streeter-Stearns' No. 1 Conger, SE NW NE Sec. 16-10-16w .....Drlg. 755 ft.

RUSH COUNTY

Prairie et al's No. 1 Lecker, NW SW SW Sec. 5-16-18w..Drlg. 2,495 ft.
Syndicate Oil Co.'s No. 1 Lannen, C SW Sec. 11-18-16w..Location.
McPherson O. & G. Co.'s No. 1 Brack, C NW Sec. 24-17-16w .....Drlg. 3,650 ft.
Syndicate Oil Co.'s No. 1 Mohr, C SW Sec. 2-18-16w ..Drlg. 3,670 ft.
Danciger Oil & Refining Co.'s No. 1 Nave, NW cor. Sec. 26-17-17w .....Total depth 3,606 ft.; abandoned.

RUSSELL COUNTY

Streeter & Stearns' No. 1 Mitchell, SE cor. Sec. 6-15-14w..Drlg. 3,389 ft.; water.
Austin Drlg. Co.'s No. 1 Rochfellow, SE cor. Sec. 6-13-12w .....Shut down 1,884 ft.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w ....Shut down 1,345 ft.

SEDGWICK COUNTY

Newman et al's No. 1 Bawly, SE NW NE Sec. 2-27-2 ..Drlg. 3,216 ft.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W half NE NW Sec. 20-13-4w .....Shut down 2,042 ft.

STAFFORD COUNTY

Boucher Oil's No. 1 Christenson, NW cor. Sec. 22-22-11w..Fishing 3,610 ft.
Boucher Oil's No. 1 Groves, NE cor. Sec. 9-22-11w .....Fishing 2,930 ft.
Midwest's No. 36 Richardson, SE cor. Sec. 36-22-12w ....5,000,000 ft. gas 3,305-08 ft.; show oil and water 3,380-87 ft.; T. D. 3,390 ft.; underreaming 6-in. csg.

STEVENS COUNTY

Argus Prod. Co.'s No. 1 Olsen, C SE Sec. 1-32-38w .....Drlg. 1,920 ft.
Argus Prod. Co.'s No. 1 Davis, C SW Sec. 31-32-38w .....Drlg. 1,350 ft.
Argus Prod. Co.'s No. 1 Headrick, C NW Sec. 9-35-37w ..Rigging up standard tools 2,531 ft.
Agate Oil Co.'s No. 1 Gregory, NW NE Sec. 19-33-38w ..Completed 2,510-2,785 ft.; 5,000,000 ft. gas.
Argus Prod. Co.'s No. 1 Hershey, C NW Sec. 26-34-37w ...Rigging up standard tools 2,606 ft.
Argus Prod. Co.'s No. 1 Ehrhard, C NW Sec. 11-35-39w ...Rigging up standard tools 2,538 ft.
Argus Prod. Co.'s No. 1 Wiley, C NE Sec. 4-35-37w .....Rigging up standard tools 2,550 ft.
Argus Prod. Co.'s No. 1 Ridpath, C SE Sec. 27-34-37w ....Rigging up standard tools 2,530 ft.
Argus Prod. Co.'s No. 1 Gibbons, C SE Sec. 29-34-37w ...Rigging up standard tools 2,538 ft.
Argus Prod. Co.'s No. 1 Knier, C SW Sec. 27-34-37w .....Fishing 2,720 ft.
Argus Prod. Co.'s No. 1 Harrison, C SW Sec. 30-34-37w ..Rigging up standard tools 2,412 ft.
Argus Prod. Co.'s No. 1 Irwin, C SE Sec. 10-35-37w .....Rigging up standard tools 2,506 ft.
Argus Prod. Co.'s No. 1 Libon, C NE Sec. 2-24-39w .....Completed 2,605-2,731 ft.; 15,000,000 ft. gas.
Braden et al's No. 1 Theisen, SE NE Sec. 6-22-4w .....Rig on ground.
Mangle et al's No. 1 Youngren, C SE NW Sec. 24-32-39w .....Shut down 2,523 ft.
McNabb and Mid-Kansas' No. 1 Rhinehart, C NE Sec. 23-32-39w .....Rig.
McNabb et al's No. 1 Porter, Sec. 4-31-37w .....Fishing 2,590 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w .....Shut down 1,600 ft.

SUMNER COUNTY

Magnolia Pet. Co.'s No. 1 Shriver, NW SW Sec. 9-23-2 ..Drlg. 2,005 ft.
Disney et al's No. 1 Fay, C E half SE Sec. 14-34-1w ....Rig.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w .....Rig.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE Sec. 16-3-3 ....Shut down 510 ft.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w .....Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w ....U. R. 5-in. csg.; T. D. 4,265 ft.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW NW Sec. 28-1n-22w .....Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w..Shut down 3,250 ft.

PHELPS COUNTY

Trees Oil's No. 1 Bergan, Sec. 22-6-19w .....Rig on ground.

RICHARDSON COUNTY

Norton et al's No. 1 Albin, NE cor. Sec. 26-1-14 .....Drlg. 2,500 ft.

ROCK COUNTY

North Central Dev. & Drlg. Co.'s No. 1 Leonard, SE cor. NE Sec. 14-32-18w .....Drlg. 900 ft.

WEBSTER COUNTY

Mid-Kansas Exploration Co.'s No. 1 Platt, C SE one-half Sec. 2-1n-11w .....Drlg. 2,370 ft.

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Petroleum Section Of Safety Congress Announces Program

The nineteenth annual National Safety Congress will be held in Pittsburgh, Pa., September 29-October 3. The meetings of the Petroleum Section will be held September 30 and October 1. The officers of this section are: General chairman, C. W. Smith, Standard Oil Co. (Indiana), Chicago; vice chairman, E. D. Murphey, Mid-Continent Petroleum Corp., Tulsa, Okla.; chairman, Atlantic Division, E. A. Timm, Standard Oil Co. (New Jersey), Bayonne, N. J.; chairman, Great Lakes Division, Frank Harrison, Pure Oil Co., Chicago; chairman, Mid-Continent Division, H. W. Boggess, Sinclair Oil & Gas Co., Tulsa, Okla.; chairman, Gulf Division, R. B. Roaper, Humble Oil & Refining Co., Houston, Tex.; chairman, Rocky Mountain Division, B. V. Osborn, Standard Oil Co. (Indiana), Casper, Wyo.; chairman, Pacific Division, W. C. Lynch, General Petroleum Corp., Los Angeles, Calif.

The program follows:

Tuesday Morning, 9:30, September 30
William Penn Hotel
Seventeenth Floor, Adonis Room
Producing Department Day

Our Goal—C. W. Smith, safety director, Standard Oil Co. (Indiana), Chicago.

Solving the Pipe Line Casualty Problem—A. W. Breeland, safety director, the Lone Star Gas Co., Dallas, Tex.

Preventing Drilling Accidents—Barton Cater, safety engineer, southern district, producing department, Standard Oil Co. of California, Los Angeles.

Preventing and Fighting Oil Field Fires—W. C. Lynch, manager, personnel department, General Petroleum Corp., Los Angeles.

Wednesday Morning, 9:30, October 1
Refinery Day

The Executive's Opportunity in Accident Prevention—E. M. Lyons, president National Petroleum Association, Philadelphia.

Safe Operation of Cracking Equipment—E. M. Matson, safety engineer, Universal Oil Products Co., Chicago.

Election of Officers.

The Business of Cleaning "Sour Crude" Storage Tanks—R. B. Roaper, safety director, Humble Oil & Refining Co., Houston, Tex.

Wednesday Luncheon, 12:30

Presentation of the 1930 Petroleum Section Safety Contest Trophies—C. E. Pettibone, president, National Safety Council.

Thursday Morning, 9:30
Marketing Day

Precautions in Fueling Aircraft; Safety at the Lifts and Pits; Safe Sales Truck Driving.

CENTRAL WEST FIELDS

(Continued from Page 60)

pay sand from 1,336-55 feet. Blue Bird Oil Co.'s No. 5 in the southwest corner of the M. Ingler No. 2 farm, NE, Section 22, same township, pumped 6 bbls. from 1,001-33 feet. United Oil Corp. abandoned No. 3 A. Atkinson farm, Section 22, same township, on account of water breaking in.

Euclid Oil Co.'s No. 8 on the M. S. Watkins farm, Section 20, Washington Township, Gibson County, has been abandoned on account of water. Texana Oil Co. is drilling on the L. W. Gudgell, Section 25, Columbia Township, same county, and the same company is drilling on the Lawrence Riley farm, Section 10, Barton Township, same county.

Wiser Oil Co. is drilling No. 7 William Phillips farm, Section 23, Logan Township, Pike County, and H. H. Risher is drilling No. 1 James M. Thomas, Section 30, Washington Township, same county. H. H. Darby and others are still drilling at No. 5 G. Stewart farm, Section 23, Logan Township, same county.

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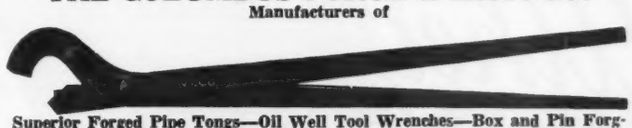

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where the Ohio Oil Co.'s No. 10 well, 144 feet from the south line and 2,094 feet from the west line of the Phillip Frye farm, SW NE, Section 34, produced an initial of 75 bbls. from the Trenton lime from 670-722 feet. In the same township, Sparks and Poulton abandoned No. 1 W. A. Lindemann, Section 21. Felson & Roberts pulled out No. 1 Bardslchew & Peel, Lot No. 25, Section 26, same township, and also No. 1 M. Harvey, Lot 10, Section 21. Clyde Sparks and others abandoned No. 1 Robert Rudolph No. 2, Lot 13, Section 21, and L. G. Blackmann and others pulled out No. 1 Robert Frazier, Lot 20, Section 21.

A wildcat drilled by the Petroleum Exploration Co., 640 feet from the north line and 630 feet from the west line of the McFarlan, on the oil map as the W. Thomas farm, NW SE, Section 14, Crooked Creek Township, Cumberland County, developed into a duster at 1,600 feet.

Niagara Oil Corp.'s No. 13 well, 250 feet from the north line and 1,150 feet from the west line of the J. and G. Apple farm, SW, Section 8, Oblong Township, Crawford County, pumped 10 bbls. initial production.

In Petty Township, Lawrence County, the Ohio Oil Co. abandoned No. 10 Oris Pepple farm, SW, Section 12, also No. 4 H. D. Rigell No. 1 farm, NW, Section 2, same township.

In McDonough County the Michigan-Illinois Oil Co.'s No. 1 on the J. A. Clark farm, is reported showing for around 2 bbls.

R. E. Moffat and others are drilling No. 36, M. and H. F. Pinnell, Section 5, Parker Township, Clark County.

LOWER GATHERING RATE IN BRADFORD DISTRICT

BRADFORD, Pa., Sept. 6.—A further reduction in charges for gathering Bradford crude, to become effective October 16, has been announced by the Bradford Transit Co. According to the plans, tariffs will be filed early this month with the Pennsylvania Public Service Commission. These new tariffs must remain on record for 30 days before becoming effective.

The Bradford Transit Co. is of the opinion that the present is the time to make local crude oil more attractive to the largest possible number of refineries despite the curtailed business the organization is handling as a result of the producers' conservation program. Bradford crude will reach the markets on an even more favorable basis when the reduction in gathering charges goes into effect next month.

In 1922, when the predecessors of this company announced a reduction in the gathering rate from 40 to 30 cents, the new rate represented the actual cost of gathering crude. Since that time as the production has increasd, the rates have been reduced until a 15-cent rate was announced on August 1. When this rate was made effective the entire saving was immediately passed to the producer through an adjustment in the market price. Whether the same step will be taken when the new rate becomes effective cannot now be forecast.

George J. Hanks, president of the company, stated yesterday that, while he was not yet prepared to announce the amount of the new rate, it would be a lower figure by far than that prevailing in any of the other Pennsylvania producing areas, and lower than that of any other oil field in the entire country.

INCREASED DEMAND

There is a pronounced increase in the domestic demand for oils for many purposes in New Zealand, even industrial, although the islands have a good supply of water power. Oil imports early in 1930 have been considerably larger than those in the corresponding months of 1929, with American contributions continuing on the gain. In the past three years the increase has been most conspicuous in gasoline and kerosene imports.

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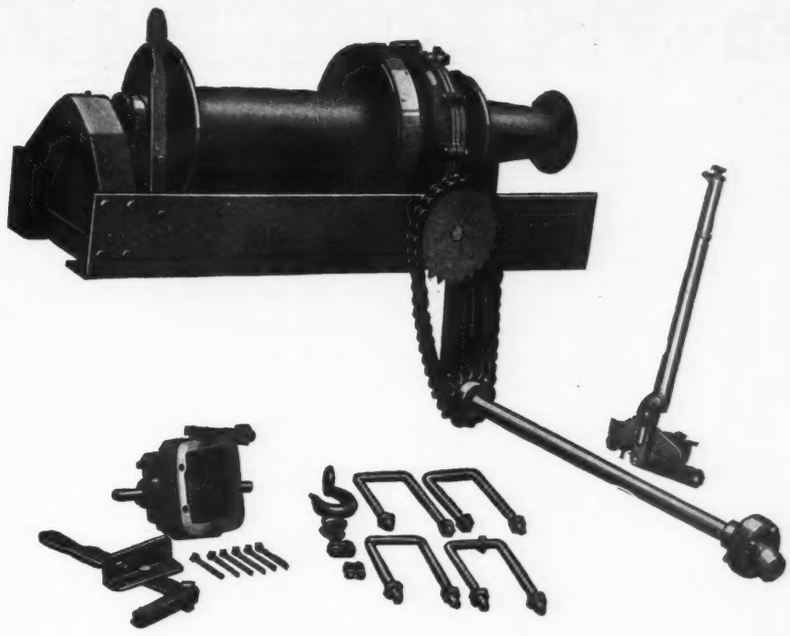

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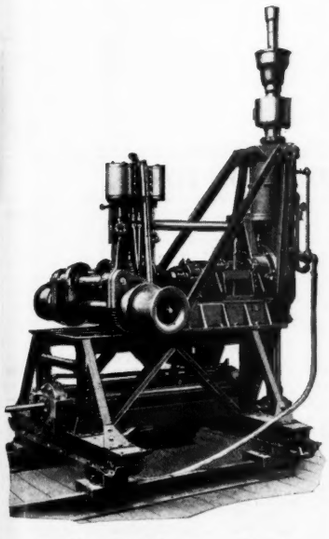

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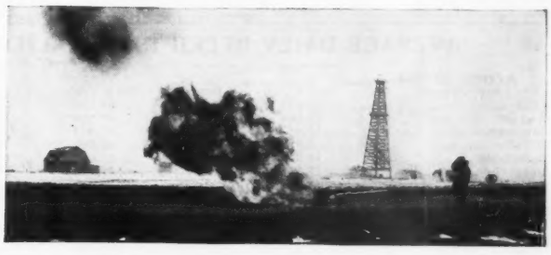

Burning the gas off a new well in Turner Valley.

The money saved on dry holes, pays over and over the cost of redrilling when a strike is made.

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